ARMED FORCES MANAGEMENT

ARMY • NAVY
AIR FORCE
COAST GUARD
MARINES

MARCH
1956

Feature

Management Within the Air Defense Command
By General Earle E. Partridge

On The Cover

General Earle E. Partridge enlisted in the Army July 10, 1918, at Fort Slocum, New York. He was appointed to the U. S. Military Academy, was graduated in 1926. On June 1, 1955, the General assumed command of the Continental Air Defense Command at Colorado Springs, Colorado, at that time the only truly unified all-services organization operating within the limits of the United States.

His decorations include the Distinguished Service Medal, Legion of Merit, Distinguished Flying Cross, Bronze Star Medal, and the Air Medal with three Oak Leaf Clusters. For his service in the Korean campaign he was also awarded the Distinguished Service Cross, Silver Star, two Oak Leaf Clusters to the DFC, and seven Oak Leaf Clusters to the Air Medal.

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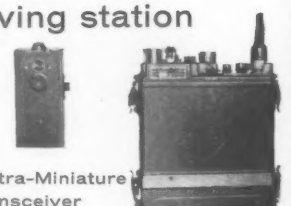

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By General Earle E. Partridge, USAF

MANAGEMENT WITHIN THE AIR DEFENSE COMMAND

ONLY a short time after I had assumed command of the Air Defense Command, in July 1955, I was asked if it could be stated that "the application of management principles" would be one of my command policies. This question was not received lightly because I well realize the importance of good management to the success of any organization, whether it be civilian or military. Especially do I realize its importance to the effective growth of the Air Defense Command where we must expand command capability and striking potential with relatively fewer personnel and material resources than have been available to us in the past. This can only be accomplished through the concerted practice of sound and accepted principles of management at every echelon of command and by each individual within the command. Therefore, to say that the application of management principles will be a command policy is not enough. It must be more than a policy—it must be a practice; a practice which is used in every operation; whether it be planning, organizing, equipping, or commanding. I have insisted on the practice of management principles in all my previous commands and I anticipate no change to this procedure while I am responsible for the Air Defense of the United States.

My concern in effectively applying accepted principles of management to Air Defense operations revolves around five organic functions of military management. These functions are planning, organizing, commanding, controlling, and coordinating. The effectiveness of the performance and management of these five functions, at each echelon of command, has a most important bearing on my capability to accomplish adequately my mission objective. No military organization can be efficiently and effectively managed unless these five functions are adequately performed.

Planning

Planning is in essence what I like to think of as exercise of foresight. Specifically, it consists of properly adjusting the relation of things before they happen. The larger the unit the greater the need for future planning. This command was organized to adjust and provide for the Air Defense of the United States before an enemy force would have the opportunity to make an effective and sustained aerial attack. Early in 1951, air defense of the United States was a subordinate responsibility of the Continental Air Defense Command. Later that same year the Congress established the Air Defense Command as a major command within the USAF, along with Strategic Air Command, Tactical Air Command and the

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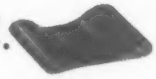
of the world's *most timesaving, worksaving, money-saving dictating machine* *—the Dictaphone TIME-MASTER. This secret is the Dictabelt Record.*  *It's crystal clear, unbreakable, mailable, post card size, filable —and it records an average day's dictation* *for just a few pennies. Write* *for Dictaphone's illustrated booklet— "Communication." We'll send you a free Dictabelt, too.*

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others. Since that time it has been realized that all the military services must be directly involved in the air defense of the United States and therefore the Continental Air Defense Command was established in 1954 as a joint command under the Joint Chiefs of Staff. The establishment of these commands is the direct result of management and planning to adjust the relationship of our forces to provide adequate combat to air offensive actions of any potential enemy forces, before an attack is launched.

The above discussion represents planning action accomplished at a high agency level. Important as appropriate management and planning is at that high level, it is no more important than that management and planning which must be accomplished at all intermediate and lower echelons of command, whether it be Headquarters of a major air command, division, wing, group or squadron, or in the cockpit of our fighter aircraft. If we cannot manage and plan at intermediate and lower echelons of command, the effectiveness of air defense operations will be impaired just as it would be if management and planning were not adequately accomplished at the Joint Chiefs of Staff level.

Organizing

Proper organization is required to maintain acceptable relationships between functions, physical factors and personnel for the accomplishment of a predetermined objective with maximum economy and effectiveness. I have often heard it said that with the right kind of personnel any organization can operate well. This trend of thought greatly depreciates the importance of sound organizational structure. Sight is lost of the fact that with a poor organizational structure even good personnel must operate with lost motion and duplication that can only lead to ineffectiveness and inefficiencies.

Development of present day weapons and equipment has increased the organizational complexity of the Air Defense Command. Because of the high degree of organizational flexibility required to provide for changes in equipment and fighting tactics, organizational structures are a continual problem. Organization structures must be developed to provide for these changes with the minimum disruption to operations. It therefore behooves each unit commander to keep working on his organization structure to assure that it is always arranged to best enable him to accomplish his mission and objectives in consideration of the resources available.

Commanding

The fundamental responsibility of a commander is to accomplish his mission. There is no excuse or explanation that can justify his failure to do this. Command, by definition, is the authority and responsibility invested in an individual by law to lead a military organization and, with it, to accomplish a mission. A commander must be a good manager and executive to do this. The fruits of his success will be measured in terms of operational effectiveness of his organization.

The United States Air Force is a tremendously big business, employing more manpower, handling more equipment and supplies, operating in more diverse fields than our largest commercial corporations. Effective operation of this gigantic activity requires the highest degree of skill in planning and commanding. To increase further the Air Force Commander's responsibilities, he must constantly keep pace with rapid scientific and technological changes. One illustration is that of the speed of airplanes. From 1903 to 1937 the speed of airplanes increased an average of *15* miles an hour every year. From 1937 to 1947 it increased 25 miles per hour per year. Since 1947 the speed of airplanes has increased *165* miles per hour per year. Each commander must keep his organization equipped, manned and trained to maintain the highest degree of operational effectiveness in face of rapid changes in science, tactics and operating equipment.

I have 478 separate organizations spread throughout the United States, ranging from Air Defense Force Headquarters to Ground Observer Corps Detachments. It is not enough to say that commanders are required for each of these organizations—it is imperative that each of

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these 478 organizations have the right commander. A weak commander at any echelon would create a weak link in the chain of command, and there must be no weak links in the air defense of the United States. I am therefore insistent that no officer be put in a command position unless his qualifications and past performance prove beyond all doubt that he is capable of managing his command, especially during times of emergency. Within the Air Defense Command, I must have quality commanders in quantity. These commanders must be successful in the management of their commands to enable me to accomplish successfully my mission.

Command positions, regardless of the size of the command, afford unlimited opportunities for young officers to develop those capabilities required for high command positions. If these officers can manage and coordinate the equipping, manning, and training of a small organization to accomplish a high degree of operational effectiveness, it is reasonable to expect that they can likewise manage a higher command position. It is in the capacity of a commander at lower echelons that our officers obtain most of their training to qualify them for top quality leadership in high level command positions.

Controlling

During present times when defense expenditures absorb the largest part of the national income, control of defense resources assumes ever increasing importance. Control must be aimed at achieving the most effective operation at all times with available resources. Controlling includes supervision, inspection and the use of standards, and checks against those standards, to make certain that the mission objectives are being accomplished effectively and economically.

Control of production is most effectively accomplished by establishing realistic standards of performance. Each work measurement standard must be somewhat incentive in nature by being slightly higher than the average production rate for that particular activity. Thus it holds a challenge for further improvement in the methods and procedures by which the mission is accomplished. Standardization of similar activities make it possible for commanders to eliminate, more readily, less effective methods and adopt those which effectively accomplish the mission with the least expenditure of resources. Visits by commanders and specialized teams to field activities are essential for effective controlling. It is through these visits that sub-standard operations are discovered and checks are made to determine if the objectives are being accomplished at a satisfactory rate. Skill is required in determining what action should be taken when progress is impeded because of inefficiencies. Control by command visits often results in corrective action being taken before an unsatisfactory condition has time to result in damage to operational effectiveness. Controlling without frequent command field visits and the application of acceptable standards will be ineffective.

Coordinating

Coordinating is vital for smooth teamwork at any echelon of command. Show me an organization which disregards this management principle and I will show you an organization of utter confusion; a situation where the left hand does not know what the right hand is doing. Coordinating can be accomplished in many ways, formally or informally. Periodic staff meetings, visits, coordination sheets, and telephone calls are all acceptable means of accomplishing coordination. Coordination is a recognized good management principle, however, like all other recognized good management principles, it can be overdone. If coordination is accomplished with individuals and/or agencies who are not concerned, the time spent is wasted time. Over-coordination will not only retard the accomplishment of the concerned project, but will also retard the accomplishment of other projects because of time unnecessarily spent. Within Air Defense Command, where there are so many varied projects, organization and operational actions occurring daily, coordination to the proper degree and to the proper degree only, is most essential for operational effectiveness.

Planning, organizing, commanding, controlling and coordinating constitute the basic formula for good management, however the results of good management will of necessity vary with such personal characteristics as intelligence, leadership, judgment and experience.

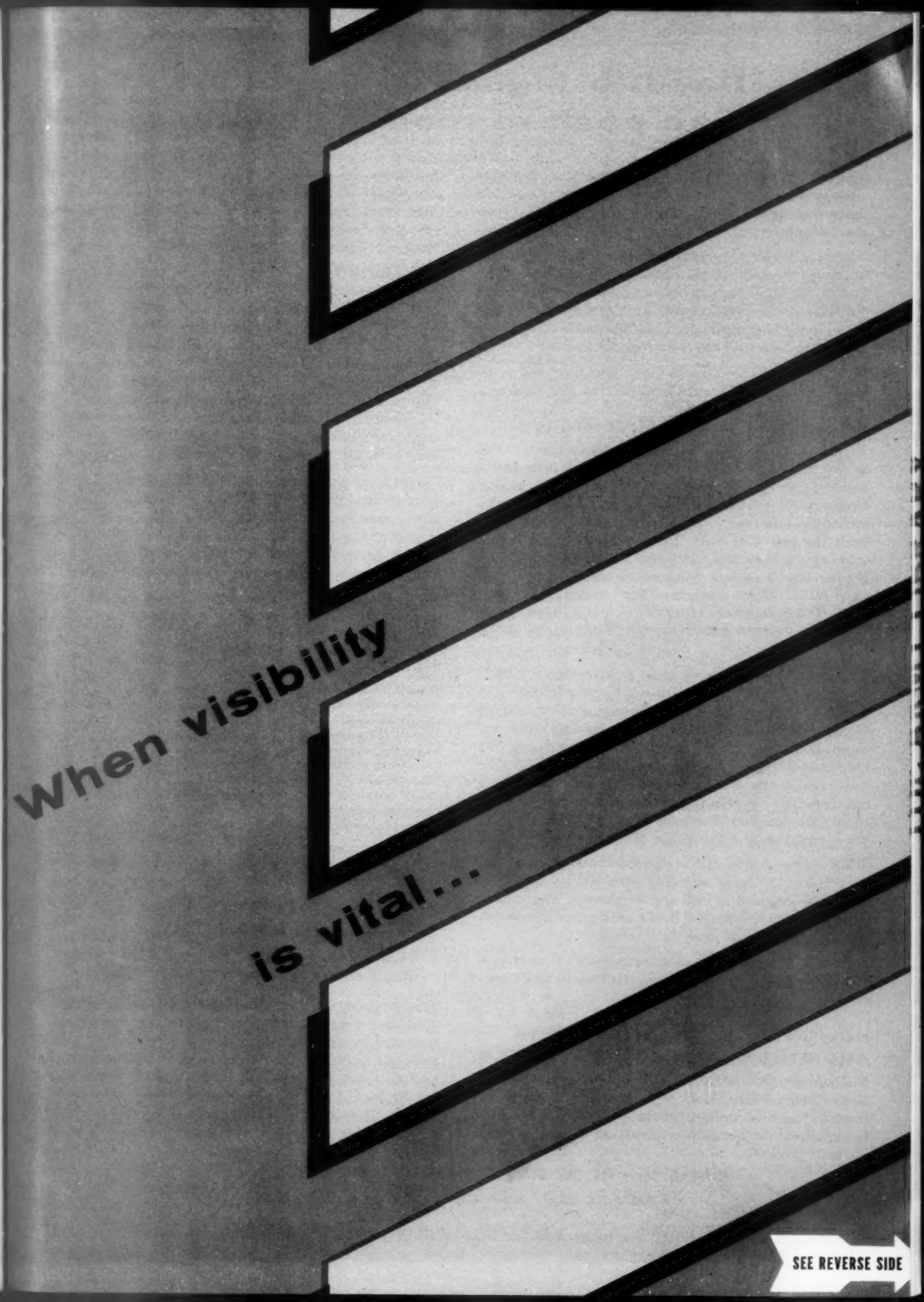
Within Air Defense Command we have what I consider to be an active and effective Management Program. The principle activities which comprise the ADC Management Program are Management Improvement, Manpower Management Reviews, Work Measurement, Base Mechanization, Management Training and the Suggestions and Cash Awards Program. Let's take a look into these activities individually to discuss their objectives, the means used to accomplish their objectives, and the results obtained.

Management Improvement

The purpose of the Management Improvement Program is to devise and put into effect better ways of doing our jobs which will result in more effective operations with the maximum economies in utilization of materiel and personnel.

I have always recognized the value of listening to the man who actually does the job—the pilot, the crew chief, the supply clerk or the mechanic. From men such as these we get valuable suggestions for improving methods and procedures, for getting the job done quicker, at less expense, and at the same time improving the quality of the job.

However, many of these "inventors" are satisfied to make improvements for the betterment of their individual organizations and let it go at that without envisioning the effects and savings which could be realized if their developed "inventions" were adopted on an Air Force wide basis. My management staff and I are thoroughly cognizant of this situation. I therefore require that a concerted effort be continuously in effect to seek out effective improvements and apply them across the board to the maximum extent possible. It concerns me little whether these improvements are developed by an ADC organization, an organization of another major command or in civilian industry. If we can apply an improvement idea to better our operations, we will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- Identification Devices
- Instrument Panels and Dials
- Life-saving equipment
- Location markers for supplies and equipment
- Obstruction markings
- Optically tracked devices
- Recognition panels
- Recoverable equipment (exercise torpedoes, etc.)
- Rockets
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certainly do so, regardless of the source of the idea. Any improvement idea submitted to my staff is evaluated and, if judged suitable, is disseminated throughout the command by means of our monthly ADC management News Letter, Materiel Bulletin, and Communications & Electronics Digest.

Characteristic and typical of the management improvement suggestions submitted by members of Air Defense Command are these:

Developed special tool to aid in removal of certain air compressors, reducing removal time by approximately four hours per unit.

Devised improved system for welding cracks in outlet ducts, reducing required time per engine unit from 45 hours to 5 hours.

Obtained quality calibration of refueling unit meters at no cost to the Air Force for a saving of $1500 per year.

Built a tool to assist and speed the removal of 2.75 rockets from the firing tubes.

Revised the format of the Unit Manning Document Worksheet resulting in an estimated direct annual cost reduction of $18,852.00.

Improvements such as these amounted to savings of more than a quarter of a million dollars for the fiscal year 1955 and untold intangible benefits. Thus individual ingenuity is providing a substantial sum toward the cost of assuming our ever increasing air defense responsibilities.

Manpower Management Reviews

I have found that one of the effective methods for helping my organization commanders to obtain the maximum return from their manpower resources, is through Manpower Management Reviews. My review teams are trained in review methods and techniques and go into each activity with the prime objective of helping the commander rather than acting as an inspection team.

The Review consists of four major objectives: (1) to analyze the mission of the organization and reduce it to essentials, (2) to insure application of basic principles of sound organization, (3) to improve and simplify methods and procedures and (4) to determine minimum manpower resources required.

A commander should, above all things, know his mission. However, sometimes an inferred or assumed mission is often locally generated, and the Review may point out functions that are not justified. Unity of command, span of control, homogeneous assignment and delegation of authority are basic principles of sound organization with which we are all familiar. Effective application is another story and our Review Teams find plenty of problems in this area where they lend assistance.

I am a firm believer in the old saying that just because a job has been done a certain way for many years is *not* justification for continuing to do it that way. To me it just means that there is a better way. Our Manpower Management Review teams not only take a close look at existing methods and procedures, but explain methods improvement techniques to operating personnel so they can continuously apply them.

Rare indeed, is the operator who thinks he has all the manpower he needs to do his job. For this reason, review teams have one strike against them when they start analyzing manning requirements of an organization. However, by application of work measurement techniques the minimum manpower requirements can be clearly determined and all doubts dispelled. Once understood and applied by an operator, he learns that work measurement is one of his best "friends," and a major factor in manpower management. It makes sound planning possible and provides the basis for scheduling work and determining the efficiency of operations.

Work Measurement

The principles of work measurement have been recognized and practiced by industry for many years. To any organization adopting the work measurement program, a great many advantages will soon become apparent. It will provide factual data for establishing schedules of production; for keeping workload, manpower, equipment and facilities in balance; for measuring the potential value of proposed changes; and for more realistic assignment of personnel to a specific work area. Possibly the most important of all, it will provide a factual basis for computing future manpower requirements which is a prerequisite to sound programming and budgeting. These are just a few of the reasons why increased emphasis has been placed on the Work Measurement Program in Air Defense Command.

Briefly, Work Measurment is a system of relating, on a continuing basis, the volume of work accomplished, to the employee time expended in accomplishing that volume. Under this system all productive work is identified by Work Units and the time required to produce a work unit under specific conditions is called a Work Standard. Individuals on my headquarters staff in Colorado Springs furnish guidance and on-the-spot assistance to my organization commanders throughout the country in initiating and operating this vital tool of management.

Base Mechanization

In our constant search for more effective and efficient methods of doing our defense job, the use of modern electronic equipment has not been overlooked. Some months ago a special program was launched to utilize punch card accounting machines throughout the command to the greatest extent practical. This Base Mechanization Program will eventually effect 27 Air Defense Command bases. With the use of such equipment, each commander and his staff will be furnished additional, more accurate and more timely data for management purposes. Also, it will then be possible to secure data and analyses which would otherwise be prohibitive because of cost and time requirements.

Management Training

Development of future managers is basically the responsibility of present day managers. It is a constant process and can be best accomplished right on the job. Both procedural and human aspects of the manager's job must be instilled in future managers. Also valuable experience can be gained by rotating student managers from job to job in related fields.

The needs of the Air Defense Command for competent managers

cannot be met solely by on-the-job training and job rotation. To augment such management experience, every effort is made to take full advantage of command quotas for base level management training courses and for advanced academic and professional training, available to this command. Many of the members of this command are graduates of the Advanced Manpower Management Course at George Washington University, Washington, D. C., and 40 military and 5 civilian supervisors are scheduled to take the 3 weeks course in 1956. A particularly valuable course in this connection is the Manpower Management Officer Course for officers and airmen given at Scott Air Force Base, Illinois. It is a 7 weeks course and covers the basic principles of manpower management in a most effective manner. In addition, the Air Training Command is doing a splendid job of making available to individuals, special courses in most of the major fields of endeavor in the Air Force.

Suggestions and Cash Awards Program

A special study compiled in May 1955 by Headquarters USAF revealed that the Air Force Suggestions and Cash Awards Program resulted in an estimated net savings to the Air Force of more than twelve million dollars in fiscal year 1954. In addition a large number of suggestions resulted in intangible benefits, such as improved morale. Of particular significance is the fact that these benefits resulted from only 11.2% of total Air Force personnel participating in the program.

While the Air Force participation rate is second highest among federal agencies, it is considerably lower than any of us would like to see. The recent trend of ADC participation rate has been approximately 9% which is far below the Air Force goal of 20%. As a result I have placed increased emphasis on participation at all echelons throughout the Air Defense Command, as I know that this huge block of non-participating personnel represents a great potential for realizing substantially greater savings.

To administer the civilian Suggestions and Cash Awards Program, a committee has been designated at Headquarters ADC and at each ADC base having a civilian personnel office. It is their responsibility to evaluate suggestions and in every way insure that the program is aggressively promoted and publicized throughout the command. The awards program must be fully coordinated with other management activities such as work simplification, training and employee orientation. In addition, supervisors at all echelons continually review employee performance and recommend deserving employees to the committee for suitable recognition of superior performance.

During fiscal year 1955, there were 818 suggestions evaluated throughout Air Defense Command. Of this total, 66 were granted cash awards for tangible savings and 107 were granted cash awards for intangible savings. The total of all cash awards granted, including pay increases for superior accomplishment, was $14,302.00 while the estimated tangible dollar savings alone for the first year would be $237,627.00.

It is a decidedly valuable program and one to which I give my whole-hearted backing.

Air Defense at Less Expense

The complexity of the air defense of our homeland is constantly increasing, but the degree of defense we achieve must never change. As a minimum, it must be *adequate* at all times. It must be maintained without undue strain on our national economy. To do this every organization, every echelon, every individual of this gigantic defense machine must constantly PRACTICE good management.

Reserves in History

The present-day United States Army Reserve traces its origin back to the days of Colonial warfare, when President Washington recognized the importance of a trained and organized group of civilians. The "Minute Man" symbol of the Army Reserve is taken from this early recognition of the need for preparedness.

MOBILE RADIO CUSTOMERS TO BE PROTECTED

Du Mont to Work Out Plans for Handling Its Leased Systems

Du Mont will take every necessary step to satisfy the leasing and service requirements of Du Mont mobile communications systems presently leased from Bell Telephone companies throughout the country. This was stated today by Irving G. Rosenberg, vice president, Technical Products, of Allen B. Du Mont Laboratories, Inc.

"According to newspaper reports of the A.T.&T. consent decree with the Department of Justice," Mr. Rosenberg said, "A.T.&T. must give up supplying private communications systems except to the Federal government or common carriers under Federal or state regulations. This means that local police department, fire departments, taxi companies, truck fleets, and industrial users will eventually have to go elsewhere for leasing and service of mobile radio systems if they are now renting the service from an affiliate of the Bell System.

"Du Mont has provided much radio equipment to operating units of the Bell System, and we will cooperate both with the telephone companies and their customers to insure that there is no interruption of service for these vital communications systems," Mr. Rosenberg stated.

"Our plans for handling these individual communications systems are not definite," he said, "but we will explore all of the various alternatives including our present lease arrangements with the phone company. We intend to make sure that the discontinuance of private communications systems by A.T.&T. will not adversely affect those customers who now have leased Du Mont equipment or may lease our radio systems in the future.

The USS NORTON SOUND, the Navy's first guided missile experimental ship, launched its first guided missile on 26 January 1949.

ARMED FORCES MANAGEMENT ASSOCIATION

NEWS and ACTIVITIES

The Secretariate of AFMA wishes to express its appreciation to Miss Eileen M. Stein, for her contribution in designing our new membership application form. Miss Stein is assigned to the Adjutant's Office, San Antonio Air Material Area, Kelly Air Force Base, Texas. Chapters desiring a supply of these forms should send their requests to AFMA headquarters, 1635 North Woodstock Street, Arlington 7, Virginia.

Chapter Activities

SAN FRANCISCO BAY AREA CHAPTER Vice President Goes to Command Management School. Norman A. Bader, is now attending the Department of the Army Command Management School, Fort Belvoir, Virginia. The school is known within the Army as the "Little Harvard" course and is designed to assist commanders and selected civilians in handling the technical and human relation problems involved in directing the work of substantial numbers of military and civilian personnel. Mr. Bader who is the Assistant Chief, Management Division, Comptroller Section, Headquarters Sixth Army, Presidio of San Francisco, is the second AFMA member to attend the school from this area. Mr. Richard Meacham, Chief of Plans and Policies Division, Comptroller Section attended the school last year.

The organization of workshops ("Discussion Groups" or "Idea Exchanges") was discussed during the January meeting of this Chapter. It was suggested that small groups be organized to make studies or surveys of certain activities of common interest, meeting for dinner followed by a session of exchange of ideas and plans. Results would be summarized at Chapter meetings as featured topics; used as the basis for employee suggestions within the agencies; and publicized. Presently Earle Reinke is interested in organizing a group to study "Communication in Management;" Art Lindsley in the "Personnel Management" field; Don March in "Systems of Review and Analysis;" and Arnell Jamin in "Use of Statistics in Management." Mr. A. Kuperstein, Chairman of the Workshops Committee will coordinate activities and assist when necessary in publicity, food arrangements or organization.

On the February 22nd holiday the Chapter visited the Ford Assembly Plant at San Jose, California. Each member was furnished the plant brochure which indicated the opportunity provided for advancing the knowledge of production planning and control, scheduling, and related management processes. The day was proclaimed "AFMA FAMILY DAY" and members were invited to bring families and friends on the tour. Excellent public relations.

Headquarters Activities

Our President, Weldon T. Ellis, who took leave of absence from the Department of the Air Force to assist the House Civil Service Committee in a study on manpower utilization within the Federal Government, has elected to devote his entire time to this important project.

It is with great regret that the Board of Directors accepts this turn of circumstances and the Board wishes to express, for the membership and itself, appreciation of the outstanding contribution Mr. Ellis has made to the Air Force and to the Armed Forces Management Association. We all join in wishing him full success in advancing his career.

Under the Constitution of the Armed Forces Management Association Edmund D. Dwyer, Executive Vice President, becomes President. Mr. Dwyer has been untiring in his efforts to build AFMA to a strong unified service for the Armed Forces Establishment and we welcome him as President.

Mrs. Margaret E. Moore, the distaff side of our national Board of Directors, will speak at the Navy Comptroller Course given at George Washington University on "Evaluating the Effectiveness of Personnel Administration." Mrs. Moore has also been recently appointed to the Navy Department's Electronic Data Processing Advisory Committee.

Bay Area Chapter. "Depot Command-Management System" was the topic of a joint talk by three ranking management officials from Benicia Arsenal before the 19 January meeting of the Bay Area Chapter (10) of the Armed Forces Management Association.

Speakers were J. W. Kamb, executive assistant to the commanding officer at Benicia; Robert Mello, comptroller, and Joseph D. Lubin, budget director.

The program covered new methods by which planning, budgeting, funding and accounting are being integrated at Ordnance installations. The result, according to Bernard Kahn, AFMA president, is to provide commanding officers with improved "command-management" techniques.

Since the recommendations of the Hoover commission, new concepts like those being instituted at Benicia have been receiving increased attention, Kahn said.

An additional speaker at the 19 January meeting was L. Laurenti, coordinator, public administration program for the University of California Extension Division.

Fort Benning, Ga.—An Army commander, just like a manager in business, must have complete understanding of his job at all levels, Col. Robert E. Holman told the Fort Benning Chapter of the Armed Forces Management Association in last month's meeting.

At a dinner meeting at 8 p.m. in the Main Officers' Mess, The Infantry School's Automotive Department director stressed the importance of officers who are not highly specialized, but trained for a variety of positions in the Infantry regiment.

Col. Holman suggested that the problem of producing more versatile leaders might be solved by requiring newly commissioned young officers to learn a specified number of jobs in each grade or rank.

He explained, when the second lieutenant is ready to move up the ladder in rank, he will have a military occupational specialty that includes almost every activity in the regiment.

A native of Florence, S. C., Col. Holman became director of the Automotive Department in 1953 when he was assigned to Fort Benning after serving as G-4 (logistical officer) of IX Corps in Korea.

Aberdeen Proving Ground, Md. —Maj. Gen. J. H. Hinrichs, deputy chief of the Army's Ordnance Corps, was guest speaker at a dinner meeting of the Aberdeen Proving Ground Chapter of the Armed Forces Management Association, held here on February 21, at the Officers' Open Mess.

Gen. Hinrichs discussed problems in connection with the management of the Ordnance Corps, the largest single supplier of equipment in the Army.

Newly elected officers for 1956 were installed at the meeting, and Dr. Walter G. Held, of Havre de Grace, president of the local chapter, presented two annual awards: to the member who has made the most outstanding implementation of management methods and procedures; and to the member who had written the outstanding professional paper on the subject of armed forces management.

Henry S. Vanderwarker (left), president of the Rainier Chapter of the Armed Forces Management Association, thanks Colonel Chester E. Glassen who was guest speaker at the chapter's January meeting held at McChord AFB. Colonel Glassen, Deputy Chief of Staff, Fort Lewis, spoke on the background and theory of the Army Budget System.

Douglas Cited for Bond Program Support

SANTA MONICA, Calif.—The U.S. Treasury Department has cited Douglas Aircraft company for outstanding support of the Savings Bond program.

During a recent drive more than 30,000 Douglas employes enrolled as new subscribers to the company payroll savings plan. It was the most successful single Savings Bond campaign in Southern California and in the aircraft industry in the past 10 years.

Completion of the drive saw 53,911 out of approximately 76,000 employes purchasing bonds through the payroll savings plan.

Introducing Colonel Harvey N. Brown, Member of the Board of Directors, and assigned to the Organization Committee of the Armed Forces Management Association. Colonel Brown obtained his BS in mathematics from Wisconsin State College in 1940 and started his career as a flying cadet. In 1941 he was assigned as Pilot and Communications Officer with the Third Attack Group, leaving the United States in January 1942 for the South West Pacific. From August 1943 to June 1945 he served as Commander and Operations Officer in a Combat Crew Training Group; from June 1945 to September 1947 on personnel administration at Headquarters Continental Air Forces, Washington, D.C.

He attended Columbia University in New York City from September 1947 to June 1948 where he obtained his MA degree. In July 1949 he was assigned to the USAF Institute of Technology as Plans Officer; in June 1950 to Air Command and Staff College, Air University as a student and subsequently an instructor; in June 1951 to HQ., USAF, Europe as Plans Officer; in February 1953 as Commander Bordeaux, AFB, France; in February 1954 studied at NATO Defense College, Paris, France and in September 1954 to HQ., USAF, Washington, D.C. where he continues to serve as Chief of the Management Engineering Branch and Director NHO.

Colonel Brown has chosen as his subject "Middle Road in Military Management."

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HEADQUARTERS

The date for the *Annual Conference* of the *Armed Forces Management* Association has been definitely established as 25 May 1956. The annual business meeting will be held the evening of the 24th. Arrange travel plans early so that you will not miss this important meeting. Details will be printed as they are determined.

Middle Road To Military Management

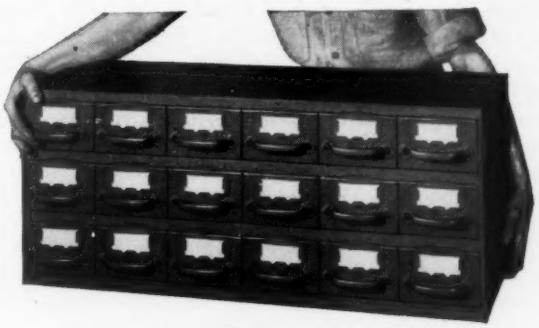
While all management actions require an appreciation of human relations, management actions in the military are unique and unlike industrial, educational or commercial situations. Military management is characterized by two broad types of influences (1) the influence of the combat or war situations and (2) the preponderant training and relatively inactive situation found in peacetime. In each of these situations, however, some management actions always require some ruthless decisions. For example, the democratic processes of management by committee or "multiple management" are unsuitable to the infantry platoon leader at H-hour, or to the combat wing commander when his units are required to participate in a maximum effort after sustaining heavy losses in previous engagements. The platoon leader cannot seek approval for his decisions from his squad leaders when the moment of leaving the security of the fox hole arises and individuals face the sudden horrible situation of an attack. Likewise, the wing commander cannot seek approval of all of his squadron commanders or aircraft commanders to engage in a mission extremely hazardous to their return. These decisions are hazardous to the well being of the personnel involved and must be made regardless of the general principles of human relations.

We in the Armed Forces are reminded these days that we must do a great deal more work with the people we have. We are told that our nation's strength depends in large part upon conservation of our human resources and that our efforts to increase worker productivity must be vigorous. Of the many tools and techniques which managers are urged to use to achieve a more effective work force, probably none has been emphasized in recent years more greatly than the application of concepts and principles of human relations. There has been an abundance of writing on the subject both by scholars and practitioners from industry and colleges across the nation. While this is evident, it is not so well known that human relations has been a field of considerable study and effort within the military services, perhaps even to the extent of leading civilian enterprise.

Like many others, I have my own definition of human relations. Many others are just as good; perhaps even the reader has a better one. In presenting mine, I do so not because of its assumed significance but to provide a setting for further development of my later remarks. It is essentially this: human relations is a two-fold area of interest and activity; first an appreciation of why people behave as they do in their dealings with others; and second, an interpretation of this understanding for application in dealing with people.

Prior to World War II, the military was believed to have its human relations characterized by one of the philosophical extremes of how to handle people. This amounted to a "treat 'em rough, tell 'em nothing" technique. The approach was based largely on outdated traditions and ideas founded in the concept of fear motivation. People would behave or work as you wanted them to only through fear of the consequences if they did not. While this view and its practice is not completely out of the scheme of things today, its role is far less significant in our modern military or civilian practices. I do not wish to imply that fear motivation is not necessary in the military of today. In general, in the peacetime situation, it does not follow when the preponderance of activity is allied to business practices rather than to the practices required and needed on the field of battle. In the training situation for battle activity, fear motivation is sometimes necessary and to some individuals absolutely essential in order to achieve objectives and to prepare individuals for actual situations which can only be simulated in peacetime.

Turning now to the other philosophical extreme of handling people, we find the view that all people basically want to do the right thing. All we have to do to secure growth, maturity and effective group behavior is to give people an opportunity to express themselves. At certain times and under certain guises this laissez-faire philosophy of human relations was employed by so-called "progressive" educators. It was the approach



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of "let the little buds unfold and all will be well". With a total lack of social discipline, this system made for human products who were uncooperative and troublesome prima donnas skilled in human malrelations.

Between these two extremes, lies a middle position of human relations which I believe is the most useful and fruitful one for military situations. It is one which yields more and better work with happier people, although it does require more skill on the part of managers. This middle view has achieved great popularity since World War II and its continuing successful use by services and industry alike clearly indicates that it is founded in practical theory. I have but one reservation concerning its managerial use and this I will discuss later.

In the practice and acceptance of this middle road philosophy of human relations, certain principles are involved which must be understood. Foremost, one must recognize and accept that people to various degrees differ from one another and cannot successfully be treated the same way. While we all are aware of the differing physical characteristics of each other, we often fail to see and understand that we are just as unalike in our attitudes and emotions. Things which may work with one of us successfully may not work for others. To belabor all individual difference and to discuss how managers act and react is, I think, unnecessary. A look at a few examples and one may quickly visualize the range of response and the different approaches which they dictate. There is the ambitious individual and there is the individual who is lame and lazy. Each reacts to stimulations which move him toward objectives. The ambitious individual must often be deferred and given extraneous assignments in order to utilize his energy and vigor along useful and ethical lines. The lame and lazy individual must be encouraged, prodded and sometimes led toward achievements which he himself might think were beyond his capabilities of achievement. Likewise, we have the dreamer and the realist. Again we cannot channel their activities toward our objectives in the same manner. We also have the dull, stubborn individual and the meek and sensitive. Even a change of voice or pitch may be necessary in dealing with each of these types of people. Obviously we cannot handle these paired groups the same, nor can we handle individuals within each group in the same manner.

Second to an understanding of individual differences, there is the principle that an individual works harder and produces more if he feels important and a necessary part in the scheme of things. This observation is well founded in both military and industrial studies and practices of recent years. The big question, of course, is how to make people feel important. Dismissing the unethical techniques and looking at only the more acceptable approaches discussed in management literature, the keynote appears to be sincerity. Each manager must develop his own code of conduct according to the dictates of his conscience. Realistic application of methods to impart a sense of importance, however, must face the facts. If there are some people who, because of their experiences, work only through fear motivation, then the manager has no choice but to use such motivation. Such circumstances, however, are an exception to the general principle.

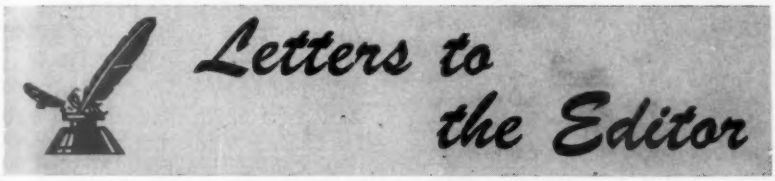
The next tenet of the middle road view is that human actions and reactions result more often from emotions and habits than from logic. In our day-to-day living, decisions are made from habitual acquaintance with situations. As human beings, we appear to show a preference for acting emotionally rather than logically. Approaches to people on purely logical grounds are seldom successful because people in general react not to facts in a given situation, but to what they think are the facts in the given situation. A manager must understand that each individual is influenced by his environment and he understands a situation given to him in terms of his experience and his current environment and he will react to various situations in terms of his experience. When the manager tries to achieve a logical sequence of events toward his objectives, he must consider these human actions and reactions and the emotional conflicts and habits of the individuals who make up the portions of his organization working toward what he considers a logical sequence of events for achievement of his objectives.

Lastly, a manager must in large measure like people, as people, to be able to get along well with them. Mere understanding of others is insufficient if he seeks to gain objectives through their efforts. This, after all, is the reason the manager exists. Will Rogers once commented that he had "never known a man he could not like". Maturity and experience mellows all of us and approaches to a decision made 10 years younger in life are very often different than the one we would make today. It is not necessary that the manager like personally each subordinate, or his subordinates in general, nor is it necessary for the subordinate to like the manager. It is perhaps much more important that the subordinate have the respect and confidence of the manager than that they have a personal liking for him as an individual.

In military management there are times when one might forget the foregoing principles, but still do a good job of managing. Such circumstances support the view that these principles are not inviolable rules for governing our dealings with people to get a job done. The use of the foregoing principles in military management would probably apply to more than 90% of situations found in military services. In almost 200 years of military services in the United States, a very small number of days have been recorded in the actual wartime or combat situation. The remainder of the time, the military, like the civilian, is engaged in day to day activities not remotely concerned with combat or the fighting of wars. So the preponderence of military decisions are wholly like those found in industry and commerce, and the use of human relations principles in arriving at these decisions is wholeheartedly encouraged. At times in the military services, however, decisions must be made solely in terms of other factors and be made without hesitation. Such decisions are frequently so important, especially in a combat situation, that any hesitation to examine human relation aspects might well negate the benefits which the decision seeks.

In summary, all management decisions in the military must be considered as entities. On some, the utmost of human relations factors must be placed, while on others the attention is diminished or relegated. While military management actions require an appreciation of human

relations, it must be understood that the relative proportion that effects the decision-making process moves from slight to great and the action itself from ruthlessness to pleasantly acceptable. Whatever the approach in the military management situation, the type of philosophy described as middle of the road, appears to be more fruitful most of the time in the military for achieving managerial objectives. It should always be remembered, however, that military decisions will at times require absolute nonconformance with the principles as outlined herein and hesitation for their consideration may possibly destroy the leader and those being led.



Hq 6048th Air Base Wing (FEAF)
APO 226, New York
19 February 1956

Dear Editor:

As a Management Instructor in the United States Air Force I find ARMED FORCES MANAGEMENT a valuable aid and asset in conducting classes in management. I would like to have permission to reproduce articles from ARMED FORCES MANAGEMENT for distribution to students.

Respectfully yours,
Norman G. Herman
T/Sgt., USAF

Dear Sergeant Herman:

Thank you for your letter of 19 February, and we are glad that our publication can be of service to you. Unfortunately we cannot grant you a "blanket authority" to reproduce articles from the magazine, as they are protected by copyrights and at times not released by the author. Usually, however, we can grant your request, and ask only that you write us each time you desire to reproduce a feature. Thank you again, and if we can be of any assistance to you or your classes, please do not hesitate to so advise us.

Headquarters Third Army
Fort McPherson, Georgia
23 January 1956

Dear Editor:

Not long ago in an issue of ARMED FORCES MANAGEMENT, you had a release on "OPERATION SAGE". I know it is connected with our air defense program, but I understand the word means something or stands for a part of the system. Can you enlighten me? All of us enjoy your publication.

Captain George D. Mills, Inf.

Dear Captain Mills:

You are correct, SAGE is an abbreviation for "Semi-automatic Ground Environment." This new step toward automation is revolutionizing air defense. SAGE is described as a semi-automatic means of determining the location of aircraft, of calculating, intercepting courses and of controlling the interceptors or other weapons. The "GE", refers to the location on the ground of the SAGE system. The heart of it, electronic consoles, radar screens, complex calculating machines and communications, will be housed in three-floor windowless, reinforced concrete buildings 100 by 140 feet, called direction centers.

ENGR. DIV. HQ. USAREUR
APO 403, New York
9 January 1956

Dear Editor:

Enclosed is my check for $3.50 to extend my subscription to ARMED FORCES MANAGEMENT for another year. Your notice of renewal reached me only yesterday thus I am afraid I may have missed the January issue. Please renew my subscription starting with January. The magazine is contributing a great deal to the spread of understanding in the management field among the officer corps in the Army. With the dollars and manpower belonging to the taxpayer, we must make every effort to manage it well.

Sincerely,
M. E. Young

Dear Mr. Young:

Your renewal has been entered, and thank you—we'll try to assist in that laudible goal.

Editor's Note—As of the closing of this issue, we have received 17 letters in regard to Colonel Leland B. Kuhre's serial "Organization—From Empiricism to Principle." We should like to thank you, one and all, together with Colonel Kuhre for your wonderful reception. We know you will enjoy each part as much as the first two, and while reprint permission cannot be granted at this time, we believe the entire manuscript can be available upon completion.

7560th Air Base Group
APO 238, USAF
NY, NY.
11 Feb. 56

Gentlemen:

In reading the January issue of your excellent magazine, I encountered a statement that needs correcting.

On page 47, the Continental Air Command is said to be charged with the supervision of the Air Force ROTC. Since August 52, that function has been performed by HQ AFROTC, under the Air University. Sincerely yours,
Charles F. Densford
Colonel, USAF

Douglas Expands Missile Program

SANTA MONICA, Calif.—Expansion in Douglas Aircraft company's missile program has resulted in several new appointments for engineering personnel.

J. L. Bromberg, formerly assistant chief project engineer, Nike systems, was named chief project engineer of a classified missile project.

Assuming the position of chief project engineer, Nike series, is P. C. Swan, Jr. Until now he was project engineer, Nike I.

In addition, N. T. Weiler was named project engineer for a classified program.

E. P. Wheaton, recently named Douglas' chief missiles engineer, said this is the first of a series of new appointments and promotions in the company's growing missile activity.

by KEMPER W. BAKER

Major, USAF, Military Member Advisory Group for Aeronautical Research and Development (NATO), Paris, France

AN ELEMENT OF LONGEVITY (For the Dollar)

OCCASIONALLY it proves enlightening to examine situations remote to your own interests and to try relating them to your own particular activities. If you do this, inevitably you will find frequent surprises in the scope of concepts which are seemingly innocuous to the cursory inquisitor. Reflect for a moment upon the jolt to modern science wrought from the gambler's laws of probability. The very same concepts which play a part in your winning the "toss" for afternoon tea form the basis of our prediction of the behavior of matter under various conditions. Doubtless, you can call to mind many other relationships of a like nature.

Deductions derived from such mental gymnastics can be highly logical or completely void of coherence. You never know the direction in which you might be led by thoughts generated during a few moments meditation in the realm of a stranger. Let us follow through a few steps of this chain reaction in thought processes and see what we find. Our approach should not be in the role of a psychologist but rather in the role of a manager—a Manager of a Government Research Program.

As a starter, think of a person whose name is legend. There's Lord Nelson, the genius of the British Navy. Nelson rose to his greatest glory during the Battle of Trafalgar in 1805. It was then that he departed from the previously established British tactics of forming the fleet in a line of battle parallel to that of the enemy. Instead of following the old procedure, Nelson deployed his ships in two increments of sixteen and one of eight. He planned these tactics after assuming that the 40 ships in his fleet would be opposed by 46 in the Combined French-Spanish Fleet. This is reflected in a memorandum which he issued on 9 October 1805. Details of his success, I leave to your knowledge of history.

Nelson's exploits have been recounted many times and in many ways. In one case the story was related by F. W. Lanchester, a British scientist who gained some prominence as an Air Power proponent during and after W.W. I. In attempting to develop air doctrine, Lanchester looked not only to Nelson but also to Pythagoras for concepts.

In his analysis of Nelson's tactics. Lanchester applied what he called the "N^2" Law. This Law, as he dubbed it, is a simple statement of relationships designed to show the advantage of concentrating forces in such a manner that maximum effectiveness is assured. The "N^2" Law is a mathematical tool and Lanchester does not presuppose that Nelson knowingly applied it. He does demonstrate, however, that application of the Law will give results consistent with those of Nelson's tactics.

If you remove the trimmings from Lanchester's analysis, you will find that the "N^2" Law bears a close resemblence to the classical Pythagorean theoram wherein $a^2+b^2=c^2$ for the case of a right triangle. Otherwise, it boils down to the fact that the proper concentration of force is good. He says that if two men of equal competence and equipment get into a tussle, the odds for a draw are favorable. Of course, the odds improve as you increase the numbers under consideration. According to the "N^2" Law, for the case of unequal numbers, the results vary with the squares of the numbers of the various strengths involved. Thus, if the "N^2" Law is applied to Nelson's force deployment, it turns out that the British, in effect, had an advantage of 30 ships. The computation is done simply as follows:

Strength of British Fleet	$(32)^2+(8)^2=1088$
Strength of combined Fleet	$(23)^2+(23)^2=1058$
British Advantage	$=30$

Now what is to be gained by this brief journey from your managerial backyard into Nelson's realm—into the heat of battle? Perhaps nothing. On the other hand, maybe this concept of concentrating force, as elaborated by Lanchester, is the clue that you have been seeking. Somehow, you must give *longevity* to that dollar which Uncle Sammy has or will (you hope) set aside for your program. If your situation is typical, you will have more program than dollars. Don't ever confuse the two—not even when the

dollars bear that ominous title "Budget."

Before starting your search for savings potential, be sure that your motivation is in tune. If you happen to be a research manager at the level where projects are hard to separate from a program, you might begin your tune-up by improving your perspective. How do you do this? It's simple. Let's say that your program is composed of basic research projects. Assume that each of the military services has an annual research and development budget of $400,000,000.00 Roughly 5% of this amount is set aside for basic research. If you could get the same amount of research return while effecting a 1% savings, would it be worthwhile? Let's see. Take (3) (.05) (.01) ($400,000,000.00) and you get the answer. It comes to more than your yearly salary—a cool $600,000.00 per year. If you aren't motivated by now, you're not a taxpayer.

The concept which you want to examine for applicability to your particular program is that of force concentration for maximum return. In the case of a research manager, the dollar is the force and the research is the return. In order to deploy your force in the manner of Nelson, it is first necessary to set up the target in the proper form or at least in a form which permits you the best understanding of what you're up against. Use your intelligence data, because indeed, this is the heart of your task. Let the untouched research program be the target.

Organization of target elements is now in order. Semi-idealistic elements can be used because a general and simplified case brings principles into sharper focus. You can't expect to arrive at infallible "N²" Laws in scientific management anyway and if the general case generates a rule-of-thumb, you've merited your bons points.

Assume a program for basic research, say in combustion phenomena. No doubt you will be faced with a number of projects which seem to be justified individually. For a touch of realism in the model case, it is possible to draw upon actuality and use a list of projects proposed at a recent meeting of prominent scientists in Paris. These gentlemen met in connection with certain responsibilities which they have for guiding the activities of the Advisory Group for Aeronautical Research and Development, NATO. Their projects are not only realistic but are quite adaptable to the general case. Interested readers can find the actual listing in the second publication shown in the Bibliography. For the purpose of discussion here, however, it is simpler to let P_1 denote the first project, P_2 the second and so on up to P_{31}, the last.

Once the projects are all enumerated, it is wise to give them the "once-over" in terms of old standard rules-of-thumb. Your abbreviated checklist might include the following:

a. Has the project objective been reduced to a relatively precise statement for each project?

b. On the basis of the well defined project objective, does it appear that the project is compatible with the organization's broader program objectives and *schedules*? (Apply to each project)

c. In cases where project objectives represent alternate approaches to problems, is there reasonable evidence that these alternate approaches are really desirable and will not result in wasteful duplication?

If the rundown on your chosen checklist leaves you any projects to programme, you are ready for the next step. Suppose that all of the 31 model combustion projects remain. The problem now is to classify them into groups. By classifying them, you will find it easier to visualize the scope of your program. The task of making the classification will actually give you a "feeling" for what you must do to get your program rolling and to keep it organized. One logical breakdown of the model combustion projects is shown in Figure 1.

With project classification complete, you are almost at the point where you start attaching dollar tags. Before going on, it is well to recall that the projects in the model case have been classified only according to technical objectives. There are two other important categories of classification, i.e., by nature of research (basic, applied etc.) and by estimated completion time. By assumption, the model projects are basic research projects suitable for common consideration. As for the estimated completion time classification, it is useful here to make a further assumption that all projects can be contracted profitably in one year. Make the year coincide with the budget period.

With assumptions completed for the moment and with projects neatly classified, you come to a crossroads. The easiest thing to do in an actual case at this point is to go out and get 31 proposals and initiate 31 contracts with universities and individuals known to be generally competent in the project areas. Of course, if you are willing to take this easy route, it's five to one that you'll overlook certain other associated seepages from Uncle's money-bag. For example, you're almost sure to justify Herky Switzel of Bigname University's Engineering Department as a "sole source." A "sole source" contract is so much simpler for everybody, justification is easy and after all, everybody in the office knows Herky. Why, he has even put in some time with the organization as

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a consultant at $50.00 per day. It doesn't seem to make much difference that Herky seldom if ever produces on time or in the manner expected. And anyway, is it really important that Herky has never worked in the field peculiar to the project which you're assigning him? The project is in the general field of aeronautics and everybody knows that Herky is an aeronautical engineer with a wonderful personality. Just the other day he was in your town for several days and kept the office in an uproar for hours with his remarkable gift of gab. Isn't it amazing how Herky can serve as investigator and still spend so little time at his university? Herky isn't at all like one of those stuffy old college professors—why, he's like—well, more like a public relations man.

Maybe you aren't inclined to the easy way of getting your program contracted. Perhaps you have a conscience and when a contract is let, you're going to make sure that proposals are obtained from all likely sources. You'll not only want to save money but you'll want the best contractor available. Instead of stopping at Herky Switzel, you'll find out about strongly accented Rudolph Bosholsky at Smallname University and meek little Tiger Lilly at W.V. Atams Research Inc. Now those men are real authorities even though one is a garlic addict and the other is such an eccentric that his proposals (or bids) run 75% below those submitted by Herky on the same work. (Note: Quite frequently work proposals are submitted voluntarily by research workers and although such proposals have not been solicited, they might indicate valid needs for work. In each of such cases, there is an individual evaluation of merit.)

If you are agreed not to attempt the easy solution then, you can return to the original objective of investigating this concentration of force idea just to see whether it is any good as a dollar spreader. Continue the investigation by setting up the model situation further. Let each project represent a cost of $5,000.00. For the sake of making comparisons, suppose that it is possible to break your program—or projects into units which bear a 1 to 1 correspondence to dollars. Thus, if you were to tackle a 100 unit program with $100.00, you would cover it completely and get 100 units of research in return. By the same token, with no dollars applied, you get nothing done. These are limiting cases. Under this system, if you let your 31 projects be contracted separately, the total cost would be (31) ($5000) or $155,000.

Bear in mind that *the actual assignment of dollar value to the cost of research is impossible.* Many, including Dr. Hugh Dryden[3] and Admiral Bowen[3], have been rather emphatic about this. The implication is that dollars are related, not to the completed investigation, but to manpower, materials and equipment for a specified period.

Most contracts of the type now discussed are let on a fixed price basis, this price falling, generally, below $25,000.00. Although most of such contracts are let on less specific costing information, the actual cost components should, according to Marvin[4], approximate the following:

a. Actual salaries of staff members employed on the project (part time services pro-rated).

b. Sums expended for materials and supplies.

c. Sums expended with specific approval of the client for equipment purchased for the project.

d. Charges for telephone, telegraph and stenographic expense.

e. Travel expense, freight and express charges.

f. Standard charges on an identical rate basis to all clients, for service shop work.

g. Undistributed expense of .... applied to the total sum paid to staff members exclusive of administrative, clerical and maintenance personnel.

Before considering a single project, simplify the foregoing outline into 3 categories and break down 5000 units into proportions common in a typical contract. An average result looks very nearly as follows:

a. Staff services	$2500
b. Supplies and other overhead	2000
c. Travel and communication	500
TOTAL	$5000

In this instance, 31 contracts go to 31 different individuals. A plot of all of the 155,000 program units versus 155,000 dollar units will form the same curve as for the limiting case wherein you would have 100 program units versus 100 dollar units or infinite program units versus infinite dollar units.

The next step in your investigation of the "concentration" doctrine is to analyze a typical project cost breakdown to ascertain the existence and nature of fixed and/or variable costs. Return for a moment to Marvin's cost outline. What about staff salaries? Are these strictly fixed costs if part time services are pro-rated? The answer is yes if the staff is concerned with only one of your projects. By the same taken, materials, special equipment, shop work, etc., are all fixed in cost if only one project is involved. But if you consider the contractor as having two or more of your contracts or projects, the facts array themselves somewhat differently. In this second instance, you are "concentrating" your buying power.

It is only common sense to expect that staff salary costs for research projects, which are contracted, will show a definite variability when the contractor has two projects which are closely related. This is particularly true for those situations where you have set out to buy the services of one or more specific individuals. It is quite reasonable to expect staff salaries for two related projects, when given to one contractor, to be about 85% of what they would be if the projects were contracted with two separate contractors. This is not difficult to understand since it is obvious that the persons responsible for obtaining, planning and organizing the work can handle many facets of related projects concurrently. *Up to a certain point, say 3 or 4 projects, you might continue to benefit by concentrating closely related projects in the hands of one contractor.* Here, it is extremely important to recognize limits to which concentration can be carried.

Going next to supplies and other overhead, you know intuitively that costs should be less for two closely related projects treated together than for two projects treated separately. The question is the amount of savings. For this group of costs,

PROJECT CLASSIFICATION

Stabilization	Spray Combustion	Oxidizers and Oxidation Phenomena	Design Problems	Experimental Techniques
		P3	P4	P1
P5	P2	P6		P11
P8	P7	P21		P15
P12	P9	P22		P20
P13	P10	P23		
P14	P18	P27		
P16	P19			
P17	P24			
P29	P25			
P30	P26			
P31	P28			

Table 1

it is logical to omit consideration of the purchase of expensive special equipment since this is done only in exceptional cases of the type of contract to which the present discussion is restricted. Left are four categories of overhead which can be broken down to relative percentages as follows:

Sums expended for materials and supplies 15%
Charges for telephone, telegraph and stenographic expense 20%
Standard charges for service shop work 15%
Undistributed expense 50%

TOTAL 100%

On the basis of business experience, it seems quite rational to look for savings of 5% each on supplies and materials and standard service charges, 20% on telephone, telegraph and stenographic expense and 30% on undistributed expense. Applying these reductions to the model projects taken two at a time will result in savings of $30 on supplies and materials, $30 on standard service charges, $160 on telephone, telegraph and stenographic expense and $600 on undistributed expense.

The travel and communication is next and it is a real source of potential savings. Always a soft spot in contracts, this category of expense can be reduced by 30% by combining projects and you can still call yourself liberal. A 30% reduction amounts to a $300 saving.

Having now completed your examination of the individual cost components of model contracts from the standpoint of possible "concentration" savings, you can consolidate your data into one plot and reflect total savings of $10,000–$8,130 or $1,870.

Certain sceptical individuals will rush to refute the amount of savings which are indicated by the foregoing manipulations. Your first defense could be the fact that you have not even tried to show the savings in indirect costs which are incurred by the operation of your own office. You know that for one contract there is considerably less work for contracting officers, their staff, etc., than there is for two contracts But since you have only tried to investigate and demonstrate a principle, beat the sceptic to the draw and say, "OK, maybe my answers aren't exact. To satisfy you, I'll just toss in a safety factor and reduce the total estimated savings from $1870 to exactly $1000."

Since $1000 is a precise 10% of the cost of two projects contracted separately, you can continue your comparisons more easily than you could have with the per cent represented by the $1870. Maybe the sceptic has befriended you. Remembering that you will combine projects only to the extent compatible with good technical judgement, go back to the model combustion projects and see what you can do with them. A reasonable combination pattern is shown in Table 2.

From figure 2 you will note that 12 model projects remain alone for a total cost of (12) ($5000) or $60,000. There are 9 combinations of 2 projects each. Each combination, under the given conditions, will cost (2) ($5000) − (.10) ($10,000) or $9000. The total cost of the combined projects is (9) ($9000) or $81,000. The total savings in the model combustion research program amount to $155,000 − $ (81,000 + 60,000) or $14,000.

The percentage savings for the overall program amount to $155,000/$14,000 or roughly 9%. Thus, if there is any merit at all in your calculations, they have been well worthwhile. From your results, perhaps you will want to replace the "N" Law with one denoted the 9% Law. Anyway, Nelson has led you into some sort of conclusion and who will deny the desirability of making a "GO" – "NO GO" check on your actual cases.

If you are at all familiar with the classic management techniques, you will have recognized by now that this discussion has done nothing more than redecorate old ideas. This is an allowable trick. As they say, "There is really nothing new under the sun." But—there is always an infinite potential of increased understanding and application. Sometimes, it is astounding to find how little push is necessary to make an old principle pay new returns.

PROJECT CLASSIFICATION

Stabilization	Spray Combustion	Oxidizers and Oxidation Phenomena	Design Problems	Experimental Techniques
P5	P2	P5	P4	P1
P6	P7	P6		P11-P14
P12-P20	P9-P10	P20-P22		P19
P13-P15	P17	P21		
P16-P31	P19-P27	P26		
P29-P30	P23			
	P24-P25			

Breakdown of Projects into possible Combinations

Table 2

Construction of the reduction plant at The Dalles, Oregon, will begin early in 1956, it was disclosed by Leo M. Harvey, president of Harvey Machine Co. and Harvey Aluminum. The announcement follows the recent signing of a contract between the California company and the General Services Administration for a $65 million primary aluminum facility.

(In the preceding two parts of this article it was shown that we do not yet have a theory of organization in the sense of a body of systematized knowledge emanating from a general truth, law, or principle. Our present approach to theory (in terms of man as the basic unit) does not hold promise because of the inherent instability of man's relativity to other men. A different approach is taken in this article—to use *idea* as the basic unit of structure in the same sense that the cell is the basic unit of the organism, and the atom is the basic unit of the structure of matter.

The principle of organization that contains in its idea all ideas for the design, construction, operation, and maintenance of organizational structures was shown to be:

$$IF \text{ oc } \frac{ICC \times IPD}{R}$$

where IF is *Idea Flow* through the organization, ICC is *Idea Creation Capacity*, IPD is *Idea Potential Difference*, and R is *Resistance* to Idea Flow through the structure. From this principle correlative principles were derived; and we are now ready to look at *Design* as the key phase of Atorgenics.)

ORGANIZATION—From Empiricism to Principle

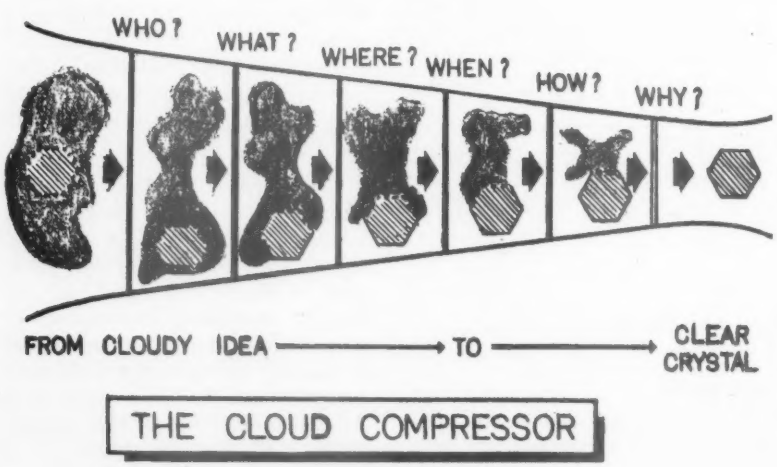
By Colonel Leland B. Kuhre

Chapter Three

Still looking at Figure No. 2 (See February Armed Forces Management, page 9), the first requirement is to answer the question mark. How can we start with the idea of accomplishment at the top and successively form next lesser included ideas until we reach the end-of-the-line idea – an idea that an individual can convert into the act of accomplishment?

More often than not, at this stage, the idea at the top is loosely and incompletely stated. We must state it as a complete idea of accomplishment so that it has within it all the ideas of accomplishment for the entire organization-to-be. It is assumed as axiomatic that forcing the answers to the six questions (who, what, where, when, how and why), will give us an idea of accomplishment that is complete, clear, and whole with a tangibleness to make it seem to have substance as an entity. The crystal clear idea of accomplishment is within the initially cloudy, vague, and loosely or incompletely stated idea all the time, but something is needed to compress the cloud into the crystal. As an aid to visualizing this process, we use the "Cloud Compressor" Figure No. 3.

THE CLOUD COMPRESSOR



THE CLOUD COMPRESSOR

Because of the need to be specific throughout the design process, the idea we have just created must have a specific name. Organizational semantics is very confused; and a suitable word to convey specific meaning is not available. For example, mission, function, goal, objective, purpose, and so on seem to be used synonomously. Neither could words be found with an appropriate etymological history.

The six-part idea governs the size, form, and character of the organization-to-be; and in it is the spirit that will give life to the organization. Lacking the English word, we find in the Greek a word conveying the concept of "breath, life, soul, spirit"; it is "Pneuma" (plural, Pneumina). We shall now let "Pneuma" replace the term "idea of accomplishment" at the top of Figure No. 2. Parenthetically, we should explain that Pneuma (capitalized) is for a purpose. Later we shall have a need for the same word uncapitalized for a different meaning.

Now, since the *Pneuma* contains within it all of the ideas of accomplishment of the organization-to-be, we can *generate* the lesser included Pneumina into a relativity, order

and structure as separate entities. Again, there is no word symbol in English to represent the concept involved, and so (again from the Greek) the word "pneumagenesis" is used.

Pneumagenesis is a kind of mathematics of ideas; and while the mechanics of it are simple enough, it forces concentrated thinking and analysis. The time required for pneumagenesis varies from one day for a simple small organization to a week or more of concentrated effort for large organizations. Within the limits of this article, we can only give the major steps in the mechanics of the process. If you will refer to Figure No. 4 you will see $Pneuma_1$ on the extreme left. The hexagon represents an idea of accomplishment expressed in the form of answering the six questions. Actually, in pneumagenesis, the Pneuma is in word form, but that is impractical here so we use the symbol.

We next select one of the six elements of $Pneuma_1$ as the "key" element and place it in the column headed "Key" so as to focus attention upon it. The major factors that condition the selection of the key are two: 1) We are generally "seeing through" to the end-of-the-line and 2) the key must be susceptible of structuring in the next step.

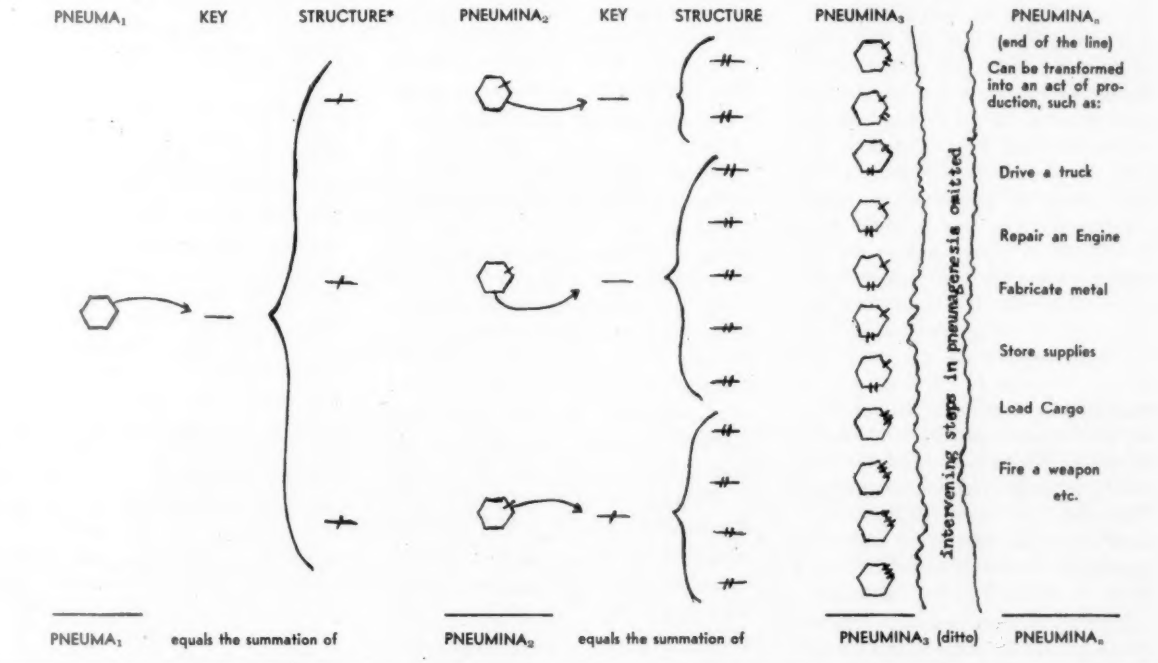
The key element is then "structured" into either a partitional or sequence structure. For example, if the key element is the "where" then probably a geographical area would be "partitioned" into lesser included parts in such a way that the summation of the parts indubitably equals the key element. A key element such as the "what" or the "how" may contain the idea of flow process; and then the structure is formed from the sequence steps in the flow.

Under the column headed "Structure" we show the structure of the key as made up of three items. This is symbolic only, and it may be any appropriate number. So far it has been found that there is only one natural relativity of ideas in this step (and subsequent steps) appropriate to today's technology and/or ontology. The items in this first structuring are so indicated by the single vertical line through each of them.

Now take the top item in the column headed "Structure" and insert it in $Pneuma_1$ in place of the "key" element. At this moment, $Pneuma_1$ has generated a $Pneuma_2$, and we place it in the column headed $Pneuma_2$. It is important that the wording in $Pneuma_1$ be unchanged except for the key element. Now repeat the process for each item in the column headed "Structure" and you have all of the $Pneuma_2$ placed in the column headed "$Pneuma_2$".

Now take each $Pneuma_2$ in turn, select one of the six elements as the "key" element and place it in the column headed "Key". Now structure each of the keys and place the resultant items in the column headed "Structure". Identify them this time by two vertical lines to indicate the second generation.

Next take each item of the "Struc-



THE MECHANICS OF PNEUMAGENESIS

Figure No. 4

ture" column in turn. insert it in the appropriate $Pneuma_2$ in place of the "key" element from which it came. At this moment, $Pneuma_2$ has generated a $Pneuma_3$, and we place it in the column headed "$Pneuma_3$". Repeat until each item in the column headed "Structure" has replaced its key element in its $Pneuma_2$. Now we have all of the $Pneumina_3$.

From now on, the same steps are repeated until the end-of-the-line is reached; and the section break on the diagram indicates this omitted repetition.

We know when we have reached the end-of-the-line: Our sense of the situation (and we are really steeped in the situation by this time) tells us that the Pneuma is not only appropriate to one mind, but it is not less than its capacity to transform into the act,—with or without assistants. In addition, there is a mechanical indicator that the end-of-the-line has been reached: The selected key element cannot be structured into a full partitional or sequence structure: We get a "casual" or "open" structure the summation of which is not indubitably *all*. Generally, the items in the casual or open structure are the interdependent and interrelated functions to be performed in the end-of-the-line "family" group. And here, at the end-of-the-line, is the only place in the structure where "functions" are found. The term "function" is here used in its biological concept (in organisms) where there are the functional systems such as respiratory, digestive, circulatory, nervous, muscular and so on. No one function is an accomplishment in itself; all functions are interrelated and interdependent to enable the whole mission of the whole organism to be accomplished. Note also that no one of these functions can *exist* separately and independently for itself alone. It is the same in organizational structures.

Having determined each end-of-the-line Pneuma, we designate it as $Pneuma_n$. (The subscript "n" is phonetic for "end"). In the column headed $Pneuma_n$ we can here indicate only some typical Pneumina that can be transformed into an act by one mind with or without assistants. (If there are to be assistants, then each of them would have one of the functions that appeared in the casual or open structure already discussed).

Now let us check the pneumagenesis as a whole. If $Pneuma_1$ was correctly formed, and if each step in the generation is correctly done, each $Pneuma_n$ will make sense to the mind of the man who is to energize it at the end-of-the-line. If a $Pneuma_n$ does not make sense as an idea of accomplishment included in the $Pneuma_1$, then there is some error in the pneumagenesis. Start from the $Pneuma_n$ and trace the work back to locate the error. Several times it has been found that the error is in the statement of the $Pneuma_1$. (/) Such an error can cause a resultant misshappen structure with built-in friction. (/) Then the $Pneuma_1$ must be corrected and the whole pneumagenesis corrected throughout. The more minds there are to participate in and check the pneumagenesis the better. And in the case of converting existing organizations a maximum participation by the people in the organization is beneficial. Disagreements quickly vanish when the individual is asked to point out the error in the pneumagenesis. Generally the disagreement is a pre-conception that vanishes under the light of the traceable logic of pneumagenesis.

As is the case in mathematics, it is most difficult to understand a method explained solely in terms of symbols; and it is not until we study an illustrative problem, and then work out a problem on our own, that full understanding comes. It is the same with pneumagenesis. People have taken the symbolic process, studied an illustrative solution, and then, on their own, have worked out their own design problems: For example, Mr. Lawrence F. Hengehold of the Granite City Engineer Depot obtained excellent results in pneumagenesis as applied to his 700 man organization—a physical production organization. Mr. George Moore, also of the Depot, did the same for an idea production organization.

At this point, let us look at some of the major characteristics of Figure No. 4.

First, notice that the Pneumina structure is provable vertically and horizontally. Vertically, $Pneuma_1$ equals the summation of $Pneumina_2$ equals the summation of $Pneumina_3$ . . . . . equals the summation of $Pneumina_n$. Horizontally, the pneumagenesis is proved in the "closing the circuit" at the end-of-the-line in the $Pneumina_n$. An analogy is the semantic ladder starting with a high order abstraction, successively forming lesser included abstractions, until we reach the referents (act, object or event) as being "real" (perceived by the senses) "on the ground".

Second, note that at each step in pneumagensis the "span of control" is automatically "right". While Figure No. 4 shows certain structured items for each key, this is illustrative. They "naturally" come out in the right number be it three, or four, or five, or six, or seven . . . . . There is no rule or principle of "span of control" as such.

Third, full meaning and concept is conveyed by each of the Pneuma in the structure even though they are highly compressed abstractions. This is because of the relativity and order. Questions of meaning are readily self-answering by a perusal of the pneumagenesis structure.

Fourth, each Pneuma is appropriate to a mind available in today's fields of knowledge because they were formed with that requirement as a part of each structure decision.

Fifth, and perhaps the most important, is the genetic affinity between the Pneumina. I believe that there is some force of affinity between the ideas created in the pneumagenesis—invisible though it may be: I have seen manifestations of it in designed organizations in the course of their operation. It is this genetic affinity that causes the resultant organization to be easier to coordinate, to be more in harmony in all its parts and relationships, and to work together better toward a common purpose. We recall the physical analogy we used earlier—asexual reproduction: A parent generates off-spring; they, in turn, generate off-spring; they, in turn generate offspring; and so on. There is a genetic affinity (also invisible) between parent and child, between brothers, between cousins, and so on.

Another analogy is that of atomic

fission. An atom is hit by a "key" (a neutron) and two new atoms are generated: Each of the two new atoms are hit by a "key" (neutron), and each of the two atoms generates two new atoms for a total of four: This generation process is continued for 36 steps. This analogy is limited in value, however, because the parent atom is destroyed in the process; in pneumagenesis of ideas the parent idea lives.

Another anology is found in the growth of an organism from a single cell. By purposeful, successive steps in a generation process from the one parent cell: new whole cells are formed until ultimately a complete and whole organism is produced. In the process the cells assume different characteristics—much the same as occurs in pneumagenesis (generation of ideas). We shall see that, just as cell generation produces a whole and complete living organism, so pneumagenesis (idea generation) produces a whole and complete living organization.

As yet, I have been unable to reason in the absolute to derive or prove pneumagenesis as we can the atom or cell generation. I feel certain that such derivation or proof exists, however, and the observation of its results in practice substantiates the belief that it has a reasoned derivation from some truth.

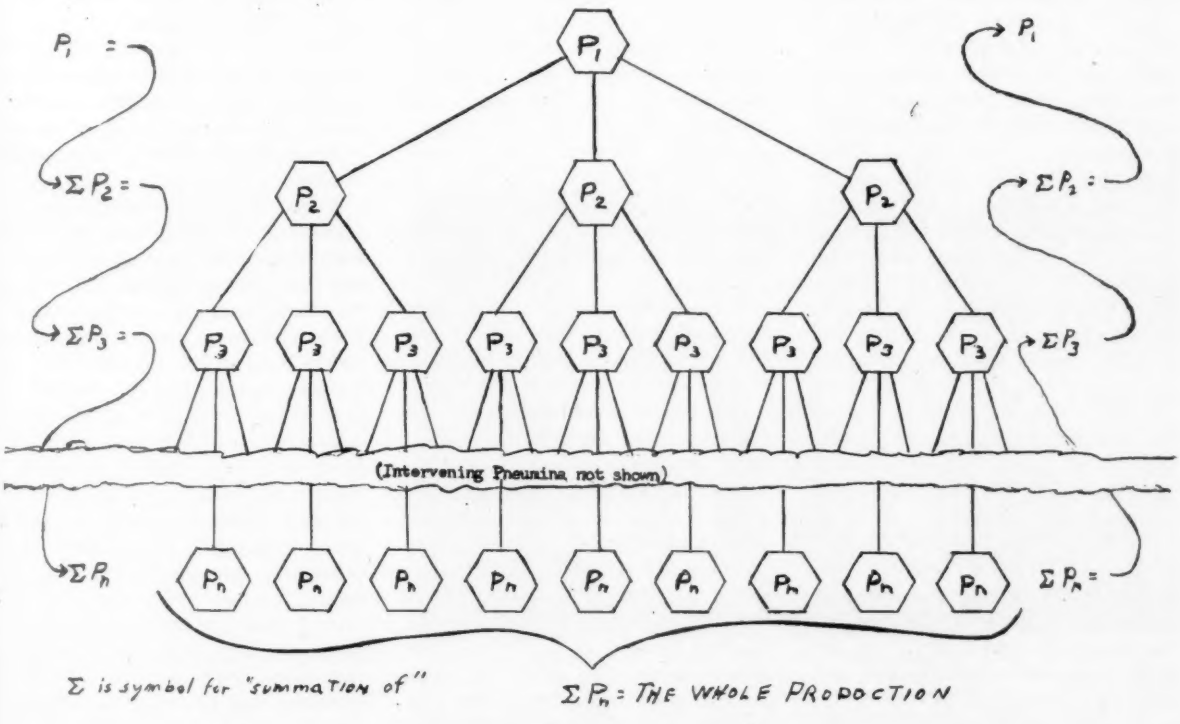
The pneumagenesis we have just seen is a work sheet. For small organizations (500 people and under) it is about six feet high and fifteen to twenty feet long. For larger organizations (5,000 or 5,000,000) we have to stop at about $Pneuma_3$ and transfer each of the $Pneuma_3$ to a new sheet and continue until another transfer is required. However, a complete pneumagenesis for the entire Executive Branch of the Government has been made on an abbreviated type basis on one sheet.

The next step in design is to layout the Pneuma Structure. If you will look at Figure No. 4, and strike out the "scaffolding" (Key and Structure columns) you will have left only the Pneumina. Rotate the figure 90° to the right and you will have the Pneuma structure in a position so you can better visualize the entire structure in operation. The resultant Pneuma Structure is shown in Figure No. 5.

Looking at the Pneuma Structure, *assume that in some way each of these complete ideas of accomplishment can be self energizing.* Then, given the physical equipment and materials to work with, the $Pneuma_1$ of the organization as a whole will be accomplished. This must be so, because if each $Pneuma_n$ is transformed into the act of accomplishment then the summation of them must produce $Pneuma_1$ by design and construction.

Here we shall have to find some terms to use in identifying the specific and lesser included portions of the whole Pneuma Structure. A contributing reason is the need to keep the terminology for our *idea* structures unmistakably identified and separate from the terminology used *after* the ideas are embodied in people to construct the operating organization.

In the Pneuma Structure (Figure No. 5) the whole idea structure consisting of $Pneuma_1$ and all below it to include the $Pneumina_n$ is complete; it is an idea-mechanism; and the ideas at the end-of-the-line are transformable into acts of production. When we go down to a $Pneuma_2$ we find the same thing: $Pneuma_2$ is a whole and complete idea of accomplishment; the whole idea structure consisting of $Pneuma_2$ and all below it



THE PNEUMA STRUCTURE

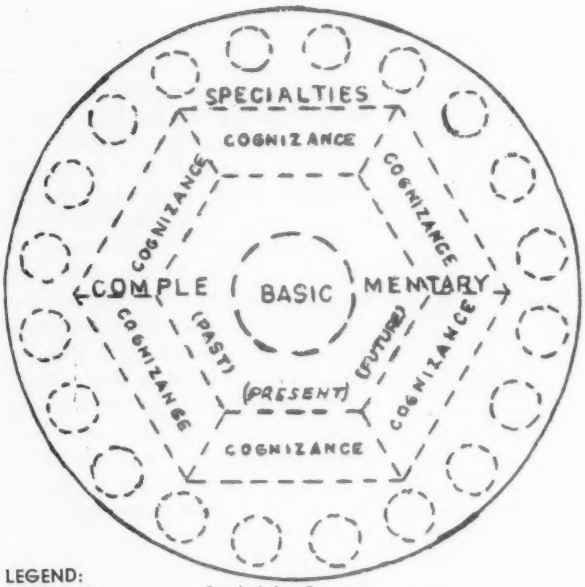


Figure No. 6

LEGEND:
Whole Hexagon – Symbol for $Pneuma_x$
BASIC – Basic Policy appropriate to $Pneuma_x$
COMPLEMENTARY – Complementary Policy appropriate to $Pneuma_x$
COGNIZANCE – Executive cognizance of one of the six sets of relationships

THE $ATOMOS_x$
(Formed from any $Pneuma_x$)
(Showing idea relativity)

to include the $Pneumina_n$ is complete; it is an idea mechanism; and the ideas at the end-of-the-line ($Pneumina_n$) are transformable into acts of production. Then we go down to a $Pneuma_3$ and we find the same thing again: $Pneuma_3$ is a whole and complete idea of accomplishment; the whole idea structure consisting of a $Pneuma_3$ and all below it to include the $Pneumina_n$ is complete; it is an idea mechanism; and the ideas at the end-of-the-line ($Pneumina_n$) are transferable into acts of production. Finally, we arrive at a $Pneuma_n$ and we find the same thing; $Pneuma_n$ is a whole and complete idea of accomplishment; it is an idea mechanism, and its idea is transformable into an act of production. For each of these "idea mechanisms" there is a need for specific identification in its relativity to all others; this will be more apparent later. In order to reduce the chances for lack of clarity later, we shall use the Greek equivalent of "Idea Mechanism" with a subscript to indicate its location in the structure. Eidosmechos would be the complete equivalent, but the word "mechos" (plural, mechoi) alone can be agreed upon as representing the whole concept. Thus we have $Mechos_1$, $Mechoi_2$, $Mechoi_3$ . . . $Mechoi_n$; and each term means the whole structure headed by a Pneuma of a corresponding subscript.

As you visualize the entire structure in operation, you will see accessory or supporting work being done that is common to two or more internal Mechoi. For example; maintenance of buildings and grounds, duplicating and printing, purchasing, medical, police, transportation, and so on. This brings us to the next step—the service Pneuma structure—but we shall take time only to outline it in the most general way.

We withdraw all of the ideas of common service from all of the Mechoi up to the top of $Mechos_1$. We then form a service $Pneuma_1$ as one idea answering the six questions so as to be a hexagon. We apply pneumagenesis and generate the Service Pneuma structure. Generally this will be made up of several Service $Mechoi_2$, and we place them on the left of the $Mechoi_2$ to retain the concept of flow from left to right. We shall not show the Service Mechoi in our figures for lack of space, but all of the steps following are applied to the Service Mechoi as well as to the Mechoi shown in type form in Figure No. 5.

At this stage each of the Pneumina ($Pneuma_1$, $Pneumina_2$, $Pneumina_3$ . . . $Pneumina_{n-1}$) contains within it (unidentified) all of the specialist ideas appropriate to it. We are now ready for the next step; and it involves the new design unit we mentioned earlier. This, we recall, is the basic unit of the organizational structure, as the atom is the basic unit for structure of matter and the cell is the basic unit for organisms (individual plant or animal). This new basic unit consists of the nucleus idea (Pneuma) with the appropriate specialist ideas orbiting around the nucleus idea. There is no word in our present organizational language that contains the concept of such a unit. A search of the English language failed to reveal any word for the concept.

Inherent in this new unit is its indivisibility (except under penalty of the release of destructive forces); the concept of the unit was found best expressed by the combination of two Greek words: *a* (not) and *tomos* (to cut). Together the Greek word "Atomos" is formed meaning literally "not to cut" or "indivisible". For the time being at least (until a better word can be found) the word symbol for the basic unit in the organizational structure is the "atomos", (Plural, "atomoi").

There is an Atomos for each Pneuma in the Pneuma Structure, and thus the Pneuma Structure becomes an Atomos Structure as we form one Atomos from each Pneuma.

We start with $Pneuma_1$, and we identify the specialized fields of knowledge in technology and ontology that are appropriate to the idea of accomplishment represented by $Pneuma_1$. As we identify each of them, we *extrude* the idea out of $Pneuma_1$ and place it outside so that it can orbit around $Pneuma_1$ while held to $Pneuma_1$ with the force of a genetic affinity. To illustrate: some of the specialty ideas in varying situations would be fiscal accounting, cost accounting, performance accounting, personnel, safety, fire prevention, status evaluation (statistical analysis), management assistance, industrial engineering, intelligence, and so on. Any specialty not extruded for identification is not lost—it is still with the $Pneuma_1$ and its absence from iden-

tification will become known. The $Pneuma_1$ of large organizations will have a number of specialties extruded of the order of 20.

We can now form the $Atomos_1$ with $Pneuma_1$ as the nucleus and the specialty ideas around the nucleus. This is shown in Figure No. 6, disregarding for the moment any concern for the internal structure of the nucleus that is also shown in the figure. The meaning of the subscript "x" in the term "$Atomos_x$" will become apparent later.

Now we proceed to each $Pneuma_2$ and repeat the process; we form an $Atomos_2$ by extruding the specialties out of each $Pneuma_2$. Each Atomos is designed as appropriate to its particular Pneuma; and thus every Atomos will be different in some way. (Just as is the case with the "jillions" of snow flakes that fall on the earth—all are hexagonal, but yet no two are exactly alike!)

Next, we proceed to each $Pneuma_3$ and, starting anew from each $Pneuma_3$ we form the corresponding $Atomos_3$ by extruding the specialties found within the Pneuma.

We repeat the process, we come to $Pneuma_{n-1}$ (next above $Pneuma_n$) and form the $Atomos_{n-1}$ from it.

Thus, all of the Atomoi above $Pneumina_n$ are the same in general structure but yet different in composition. When we get to $Pneumina_n$ the situation changes: Above $Pneumina_n$ the Pneumina are not transformable into acts of accomplishment. To oversimplify for the time being, all of the Atomoi above $Pneumina_n$ are concerned with "seeing to the doing"; and only the $Atomoi_n$ to be formed from the $Pneumina_n$ are concerned with "doing".

(In the next installment, we shall complete the design of the $Atomos_x$ *and the* $Atomos_n$*, thus arriving at the complete idea structure of the entire organization-to-be (or existing organization to be converted). The idea structure inside the nucleus of the* $Atomos_x$ *will be developed; and here is where we shall see why the present patterns of* functional *vice presidents, assistant chiefs of staff (and similar positions) cause "executive ulcers").*

Continued Next Month

General Electric Displays Satellite Rocket Model

CINCINNATI, OHIO — A new display of a half-sized rocket engine similar to the engine the General Electric Company will build for the government's satellite rocket was unveiled at the company's jet engine plant here February 9.

The display was one of the many unusual exhibits that top military, aircraft industry, and civic officials saw during a tour of General Electric's new aircraft gas turbine development facilities. The half-scale rocket engine model shows the typical construction of a G-E rocket engine. A full-sized rocket engine like the model would have a thrust several times more powerful than today's production jet engines.

Thirty-one inches long and ten inches in diameter, the model is a cutaway which shows internal parts, including the thrust chamber, propellant pumps and pump drive system, and regenerative cooling system.

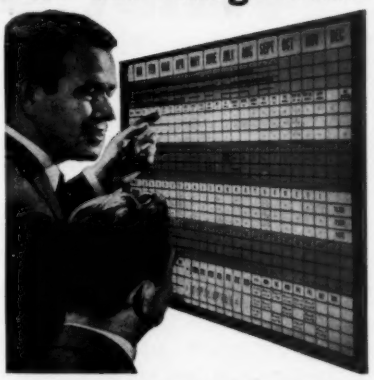
Bendix Releases "Air Power '56"

The Bendix Aviation Corporation have announced that a documentary motion picture "Air Power '56" is being released for free showing to large groups.

The new film, second of a series, takes the theme that the National Air Show, as a report to the nation is of prime interest to the American public as a whole and Bendix is said to have recorded much of the dramatic action at the Philadelphia show in a 16 mm color-sound motion picture.

The film will be loaned free-of-charge on request to Bendix Aviation Corporation, Bendix Products Division, South Bend 20, Indiana.

You Get Things Done



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HQ SAC, OMAHA, NEBR.—General Curtis E. LeMay, Strategic Air Command commander in chief, looks over a chart showing the command's declining aircraft accident rate since 1949. The 1955 rate hit a record low of 11 accidents (major and minor combined) per 100,000 flying hours. The all-time low was accomplished in the face of a 34 per cent increase in flying time over 1954, accelerated rotations of B-47 wings overseas, around the clock air refuelings and launching of the B-52 training program. (Official USAF Photo)

What Management Means to Me—

This Month:

By Col. Keith T. O'Keefe
Commander, Lordstown Ordnance Depot

MANAGEMENT is an art which involves people with people, as well as people with things. As is true with most of the applied arts, management must be constantly practiced, properly or otherwise, or a state of atrophy will prevail. Proper application will result in timely objective achievements with minimum cost and effort. Improper application will cause chaos and confusion with or without incidental achievement of objectives. The function "management" cannot be overemphasized or unduly stressed, but the word "management" sometimes becomes abhorrent by continuous and vehement usage. Certain narrow specific techniques designed for a purpose, such as "procedures analysis," have become the symbol of management in some of our better circles. The resultant dilution of the broad true managerial concept has been ghastly. Why are the broad visionaries entering the wide fields of management with a hypodermic needle when a bulldozer is required? The continuous changing of the size of the needle and the point of application hardly permits time for determination of patient reaction.

The knowledge of the "business" is to me the substance of the problem, and while procedures, techniques, and format are essential, they are empty without true substance. It is rhetorical to ask whether we should develop men of substance or purely format people. This does appear to be the age of the "format fellow" as an apparent manager since the man of substance, too often, will not give the required weight to format with a consequent and disastrous loss of managerial status. The true disciple of management has to be both a man of substance, as well as a "format fellow." Opposition to progress will only result in the old man of substance staying at home with his Davey Crockett trappings while the "format fellow" continues on his merry unsubstanced way as the only available source and scourge of management.

It is highly essential that this tendency to replace the solid professional knowledge with fancy format be curtailed. The two must be married and operated as a combination for the realization of the optimum of managerial objectives. The tendency to convert enterprises into laboratories of apparently new and allegedly untried "format" is to be cautiously tempered. Our huge and intense record of industrial achievement reveals a basis for selection and cannot condone a "change for the sake of change" philosophy. The experience is crystal clear in many cases, and the justification for repeating errors of the past is completely lacking. Top management is God-given, and we are blessed in that respect. While first line of supervision is drawing more than its share of attention with startling results, the great portion stretching from the top to this first line is the morass in which light, guidance, and good hard work is indicated. There is no quick easy gadget-like solution, despite wishful thinking, to properly orient and direct the resources held between the top level of management and the first line or the worker.

Of these resources, money, people, raw materials, and machines, which cost most in which business? In the Armed Forces, the people factor represents a most costly resource. It appears obvious that management policy orientation must be directed to manage people to a greater degree than other available resources. True, a precise managerial approach in this field is tempered by factors which are difficult, if not impossible to assess, and are planned and logical by-products of our civic organization. These factors, although imponderables, are facts of life and cannot be ignored in any realistic managerial assessment. Our processes of legislation have also clarified certain of these factors by defining minimum unemployment benefits, social security, and other like items. The accent placed by the machinery of government on this field, as indicated by the very large quantities and types of legislation made into law, is indicative of the importance of the broad field of personnel management.

Because of this emphasis on the personnel aspects of management, it is not to be concluded that all others should be excluded by good management. The other broad fields including money and facilities are composed of inarticulate and inanimate things. They cannot talk back, think, or with all due respect to the automation concept do things unto themselves. The people field of management objectively is most sensitive to the managerial application of the other broad fields. "Judge, lest not you be judged" is a perfect description of this one of the most reactionary areas. Poor management of resources is further accentuated by the adverse reaction of the people factor. In our highly competitive existence, there is always room for a better individual and one is

usually immediately available for the job. Knowledge of substance in this field is a major factor especially in dealing with the subordinate echelons of management. The "know how" of the business is always a fine large stone to be used in building the base of respect, common understanding, and mutual confidence which is so essential to an operation well managed. Standardization of method, but not of people, must be accepted as a fact of life in our managerial concept. There is, of course, an added factor as applied to people, which in its generic sense is a catalyst in effecting the desired objective; that factor is discipline, both mass and individual. In the Armed Forces, discipline is accepted and necessary, but it is essential in civil occupations as well. Without becoming involved in a discussion which appears psychiatric rather than managerial, it is contended that confusing discipline and regimentation is mixing a cause and an effect. Regimentation, as an objective, is neither desirable by management in our civilian occupation nor in our Armed Forces.

The involvement of people with people and people with things is an art which compels people to practice management. It is significant that this practice requires knowledge, vision, and the selective application of such knowledge and vision. The utilization of certain accepted and proven techniques by management is highly desirable in properly carrying out this practice, but these techniques, in themselves, are subjective means to be used as aids in the application of resources for the achievement of objectives. Judicious decisions causing the balanced application of these principles will result in good management.

S. A. Airline Buys Newest Douglas Transport

SANTA MONICA, Calif.—First sale to a South American airline of the newest transport plane now flying was announced today with the order by Panair do Brasil for four Douglas DC-7Cs.

J. W. Clyne, director of international sales for Douglas Aircraft company, said the purchase by the South American operator represents an investment of $12,500,000, including spare parts.

When Panair puts the "Seven Seas" into service it will reflect a time saving of five hours, 25 minutes on the Buenos Aires-Lisbon run over schedules now maintained with present equipment.

The company serves England, France, Germany, Switzerland, Spain, Portugal, Turkey and Lebanon with its overseas operation and Argentina, Uruguay, Chile, Paraguay, Peru and Brazil in South America.

The "Seven Seas," which first flew on December 20, is the first truly intercontinental commercial transport, with a range of 5,000 miles.

THE ARMED FORCES MANAGEMENT ASSOCIATION—

IS an association to develop those skills of its members which contribute to effective and economical management in the Department of Defense gathering together the responsible officials, leaders, and co-workers who contribute to better management in meetings, conferences, seminars, and through personal contacts. Its National and Field chapter work groups and other activities offer members an unusual opportunity to participate in developing and keeping abreast of management methods and practices in the Department.

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IF you are a member of the active or reserve uniformed services or a civilian employee of the Department of Defense, and are engaged in or interested in management and administration in the Department, you will find membership in the Association a worthwhile investment. The AFMA National Chapter is organized into seven divisions, affording members an opportunity to participate in Association activities in the subject matter or specialized field of their particular interest. Write today for particulars to the Chairman, Membership Committee, care of:

ARMED FORCES MANAGEMENT ASSOCIATION • DEPARTMENT OF DEFENSE • WASHINGTON 25, D.C.

New York Air Reserve Center, New York. Forty Air Force Reserve officers received diplomas recently in brief exercises marking the completion of the first phase of an experimental program of study which is expected now to set a pattern for Air Force Reserve Centers throughout the nation. The initial phase, designed to provide a new type of reserve training, was a year-long course of 48 classroom hours on "Techniques of Military Management." The course was conducted at the Center and was developed and administered by the College of Business Administration of Long Island University. Conceived by Major General Roger J. Browne, USAF, Commander of the First Air Force, and a strong believer and supporter in management, together with Colonel Bernard C. Rose, Commandant of the New York Air Reserve Center, the course was developed by Dean Howard K. Rice.

The Armored School, Fort Knox, Kentucky. The Armor Communications Officer Course has been revised to provide more compact and better sequence program of instruction. The new class which will begin on the 12th of this month, will be of 10 weeks duration.

U.S. Naval Academy, Annapolis, Maryland. Rear Admiral William R. Smedberg III, USN, one of the youngest men ever to head the Naval Academy (53), has assumed the position of Commandant. The Admiral has been serving as director of political-military policy in the office of the Chief of Naval Operations since 1953.

Westover Air Force Base, Massachusetts. The new Air Force million-dollar management course is underway at each of the Eighth Air Force's 11 bases. Lt. Col. Martin J. DeLinck, Chief of the Manpower and Organization Division, said the new course was an attempt to answer the Air Force expansion to 137 wings without a corresponding increase in personnel.

Fort Benning, Georgia. Twenty-one military and civilian personnel at Fort Benning recently completed the Supervisory Course geared toward better efficiency and management. Regular classes are conducted at the installation and hundreds of employees have graduated armed with the latest techniques.

Department of the Army. The names of 870 officers nominated to attend various senior Army schools have been announced. The National War College, 34 officers; the Army War College 181 nominees; the Air War College, 10 students; Naval War College, Command and Staff, six students; Armed Forces Staff College, 63 students; Command and General Staff College, 516 students; Air Command and Staff School, 10 students; Naval War College, first year, five students; and Marine Corps Schools, senior course, six students.

Air Force School of Aviation Medicine, Randolph Air Force Base, Texas. Tests on more than 18,000 troops sailing overseas have turned up two drugs—Bonamine and Marezine—with "significantly greater effectiveness" than other seasick remedies. Tests were conducted under the direction of Dr. Herman I. Chinn, working under a newly established joint committee. The school last month graduated 110 new Aviation Medical Officers.

Navy General Line School, Monterey, California. Thirteen WAVE officers are presently attending the first course which began on 6 February. Graduation is scheduled for 20 June, 1956.

Marine Corps Schools, Quantico, Virginia. A new flight training program for college undergraduates, known as the Platoon Leaders' Class (Aviation), has been established at Marine Corps Schools in an attempt to bolster the pilot requirements. College-time training will consist of six-week indoctrination sessions during two summer vacations.

Army Aviation Center, Fort Rucker, Alabama. Construction of training facilities in the amount of $1,467,670 has been approved. Bids will be awarded prior to 1 July by the Mobile, Alabama, District Engineer.

Army Command Management School, Fort Belvoir, Virginia. Class No. 12 with a total of 46 officers and 6 civilian employees began last month at Fort Belvoir. The present class includes one Navy Officer, two Air Force and one Coast Guard officer.

Military Sea Transport Service, Washington, D. C. A new 14-week course designated as "Ocean Transportation Course", was recently concluded for 51 military and civilian personnel. The first Ocean Transport Course for MSTS employees was a three-week, full-time course conducted at the American University in Washington, D. C. held in May 1951. The new course met for two hours one evening each week and utilized MSTS instructors under the direction of COMSTS training branch.

Air Force Resources Management Program, George Washington University, Washington, D. C. The 29th class, consisting of 92 officers and 10 civilians, were recently awarded diplomas bringing to 3400 the number of Air Force personnel who have completed the management course established five years ago.

United States Coast Guard, Washington, D. C. The Coast Guard has selected 24 ace electronic experts as eligibles for a 24-month course of advanced electronics training at the Radio Corporation of America Institute.

Signal School, Fort Monmouth, New Jersey. Six officers and two enlisted men from Germany's new Army have been assigned to the Signal School for technical training.

The eight are among the first group of 38 uniformed soldiers from Germany's new Army to enter the United States since World War II.

U.S. Naval Schools Command, Newport, Rhode Island. Captain William B. Perkins, USN, Commanding Officer, awarded diplomas and administered the oath of office to 19 new WAVE ensigns recently. The new officers are presently engaged in eight weeks of additional training at the school prior to assignment.

Army War College, Carlisle Barracks, Pennsylvania. Student officers at the War College recently began a new course of study entitled "United States Foreign Relations." The five-week course, under the direction of Colonel J. E. Landrum, Jr., will examine typical problems in U.S. foreign relations and propose policies designed to advance the realization of our long-range national objectives.

Stanford University, Palo Alto, California. A joint announcement by Stanford and the Lockheed Aircraft Corporation was made recently for the construction of a series of research laboratories on a 22-acre site at the University. The laboratories are being constructed to further scientific studies in the realm of missiles and unmanned aircraft. Lockheed will invest some $20,000,000 in the next three years.

Turbojet Engine Hydraulics Symposium, Detroit. Sponsored by Vickers Incorporated, 75 invited guests participated in a two day symposium February 2 and 3 highlighting various subjects in the field. The first meeting of its kind, the guest list included representatives from the major jet engine builders, research and development organizations, airline companies and military personnel.

Headquarters Sixth Army, Presidio of San Francisco, California. Major General Riley F. Ennis, USA deputy commanding general, Sixth Army, delivered an opening address to 175 executive officers, section and division chiefs, in a new work simplification program designed to train 200 first-line supervisors every 90 days.

NEWS BRIEFS *from the* SERVICES

Naval Research Laboratory, Washington, D. C. Captain S. M. Tucker, USN, Director, has announced the appointment of Dr. Oscar T. Marzke as Director of Research. Dr. Marzke succeeds Dr. Edward O. Hulburt, who is retiring from Civil Service and has become the senior scientist for the United States National Committee for the International Geophysical Year of the National Academy of Sciences.

Air Force Missile Test Center, Patrick Air Force Base, Cocoa, Florida. The Navy and the Air Force have selected this installation as the launching site for Project VANGUARD. Selected as ideal for large rocket launching and suitable to scientific needs, the man-made instrumented scientific satellite may soon be a reality.

Camp H. M. Smith, Honolulu, Hawaii. Dedication ceremonies were recently held for the largest single Marine Corps field command in the world. Named in honor of General Holland McTyeire Smith, USMC (Retired), ceremonies were attended by high ranking military officers, government officials and prominent civilian dignitaries. General and Mrs. Smith were guests of honor, flying to Honolulu from La Jolla, California, where he has resided since retirement in 1946.

Naval Ordnance Test Station, Pasadena, California. In a movement designed to develop closer cooperation between government and industry, the Test Station has inaugurated a rotating program whereby junior professionals, 1 year out of college, are given a weekly series of lectures and visits to the plants of local Navy contractors. Recently under the guidance of Frank J. Hill, Jr., a group of 19 young engineers and scientists were escorted through the Glendale plant of Librascope, Incorporated.

Headquarters Third Army, Fort McPherson, Georgia. Third Army installations are mighty safe places to work and Third Army personnel are mighty safe people to work with. At least, that's the indication borne out in 1955 safety reports published last week at Headquarters Third Army. Civilian employees (approximately 16,000 of them) put together an outstanding on-the-job safety rate during the year of only 3.3 accidents for every million hours of work.

Mitchel Air Force Base, New York. After careful consideration to all aspects of the Mitchel Air Force Base question, the Air Force has come to the conclusion that under present world conditions and for the foreseeable future Mitchel Air Force Base should be retained in

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•Write for Bulletin CK-455

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operation as an essential part of our total air base structure.

Marine Corps Schools, Quantico, Virginia. The Nation's top Olympic candidates and representatives of nearly 90 universities and colleges, including most of the eastern and Big Ten track powers, will participate in a gigantic outdoor relay carnival at this installation on April 6 and 7.

U.S.S. Boxer, San Diego, California. The carrier USS BOXER, which recently completed her seventh tour in far eastern waters, has arrived in San Diego for conversion to an anti-submarine-warfare support ship. The Navy said the high speed jets now aboard the 27,000-ton flattop will be replaced with slower propeller type planes better suited for submarine defense purposes. The Boxer is expected to be ready to rejoin the fleet in July.

Army Chemical Corps Materiel Command, Edgewood, Maryland. The movement of the Army Chemical Corps Materiel Command from Baltimore to the Army Chemical Center at Edgewood is underway and expected to be completed by 1 April. Relocation was recommended in the Miller Report which, headed by Dr. Otto Miller, Vice President of Standard Oil Company of California, recently completed a study of all phases of Chemical Corps organization and operation.

Ordnance Aerophysics Laboratory, Texas. Operated by the Convair Division of General Dynamics Corporation for the Navy's Bureau of Ordnance, the installation has recently completed the installation of an advanced type IBM electronic data processing machine designated as the 650. It contains a "memory unit" capable of storing up to 20,000 digits and does mathematical calculations more rapidly than older machines.

Army Aviation Center, Fort Rucker, Alabama. The first meeting of the Fort Rucker section of the American Helicopter Society was held at the Fort Rucker Officers' Club recently with a record-breaking first attendance of over 200 members. Mr. Igor Sikorsky of the Sikorsky Aircraft Division of the United Aircraft Corporation, was guest speaker, and in addition to representatives from all branches of the Army, Air Force, Navy and Marines, many foreign military representatives, including Germany, England, Canada, Australia and Belgium, were present.

U.S. Naval Shipyard, Portsmouth, New Hampshire. The first nuclear-powered submarine to be built in a Navy Shipyard, the SWORDFISH, will be some 40 feet shorter and 300 tons lighter than the NAUTILUS. Designed to cruise submerged at speeds of more than 20 knots, a new-type atomic reactor will power the ship. Keel-laying ceremonies were held on 25 January and it is expected the vessel will join the fleet in 1959.

5th Coast Guard Search and Rescue Center, Norfolk, Virginia. The Center has recently reported that calls for assistance have increased from 1307 in 1954 to 1448 in 1955. December was the high month with 105 calls being received or 16 above the same month last year.

Air Research and Development Command, Baltimore, Maryland. A unit designed and built by the Wright Air Development Center, first directed by ARDC early in 1953, which diverts the hot gases blasted out of the jet's tail pipe, and turns them forward, acting as a powerful brake, has been successfully tested. Acting in the same way as reversible propellers in slowing conventional aircraft, the new braking system could eliminate parachutes and allow jets to land at safer speeds on shorter runways.

Military Air Transport Service, Washington, D. C. Some important flight and safety records were racked up in 1955 by this 7½-year-old service: Missions totalling an estimated 1,180,000 hours—24 per cent over 1954 and the first year over the million mark; transport operations involving 568,000 flying hours, almost a hundred thousand over 1954; 733,400 passengers, 200,000 more than 1954. With a reduction in employee rolls by almost 3,000 persons, this deserves the "well-done" phrase.

Fort Benning, Georgia. The 750 employees in the Infantry Center Quartermaster Section have passed the million and a quarter man-hours without a single loss-of-time accident. Now pointing toward the two million mark, they have already exceeded all previous safety records for any similar group in the six-state Third Army area. Recently ten letters of commendation for their contribution to safety were presented to personnel of the Center.

Kelly Air Force Base, Texas. The world's largest maintenance and repair hangar now under construction by the Kuljian Corporation of Philadelphia, will be completed this month. The $13-million facility will be the first to allow a production line handling of aircraft.

Retail Item Prices To Be Fixed at PX's

Fixed prices from coast to coast on 35,000 retail items sold in exchanges will soon be in effect, it was announced by Major General H. L. Peckham, Chief of the Army and Air Force Exchange Service.

As of the first of the new year the establishment of fixed prices on about 10,000 items has been completed.

The new pricing policy will eliminate differences in prices on the same items of merchandise among exchanges. Such variations have been due in the past to differences in freight costs or in the purchasing power of individual exchanges. Under the new policy all Army and Air Force personnel will receive uniform savings on their exchange purchases regardless of where they are stationed in the United States.

Formerly only cigarettes, candy, and beer had uniform retail prices. Exchange prices on other items were previously based on a uniform markup percentage applied to the cost price.

Chrysler Corporation Forms Major Manufacturing Group

Establishment of a new, three-division manufacturing group within Chrysler Corporation, designated as the Engine and Transmission Group, was announced by L. L. Colbert, president of Chrysler Corporation.

Book Reviews

by D. D. Corrigan

From Alpha to Omega

"AMERICAN MILITARY POLICY: Its Development Since 1775," by C. J. Bernardo and Eugene H. Bacon. (Military Service Publishing Co., 512 pages, $5.00).

Hats off to Doctors Bernardo and Bacon for their penetrating book on American military policy. There is no more pertinent subject today and yet the average person does need information on the background history of American military policy in order to understand current policies.

For military professionals this book is a must, and for other persons an aid to better understanding of the activities of their government. The need for a book such as this one has been apparent for some time. Not too technical, nor too simple, but up to date and complete —AMERICAN MILITARY POLICY fills the bill.

Written in chronological sequence, the authors present their subject matter in clear terms. The topic is approached at the political level, not a study of campaigns, battles or wars. If many people read this book, as they should, a good influence may result in an awareness of necessary military strength.

Dr. C. Joseph Bernardo's experiences have qualified him on military policies. He has lectured on United States military policy as a faculty member of the Department of Military Science at the University of Maryland. At Loyola College he taught American diplomatic and military history. He has served in the Armed Forces with Military Intelligence Reserve, Counter Intelligence School, Office of Chief of Military History, and presently is on active duty as a major in the Ordnance Corps.

Dr. Bacon lives in Washington, D.C., and is a faculty member in the Department of History at Georgetown University. He served in the army from 1943 until 1947, and was with the 42nd Infantry Division during the European campaign.

Now to the heart of the subject, or just what do Doctors Bernardo and Bacon present that is timely and informative. American military policy began of course with the revolution, but certain ideas that the colonial fathers brought with them from Europe dominated the policies. A hatred and fear of standing armies, a distrust of conscription, and a firmness to keep the military responsible to civil authority were policies that had their roots in Europe. Many of these ideas have long persisted. The desire to dissolve military forces as soon as the emergency or danger is over is still being felt.

George Washington's firm foundations, the constitution, Jefferson's policies and the war of 1812 are clarified as to their contribution to the military policies of the United States.

National defense continued to be neglected and the weakness of the military establishments plagued the country through President Madison up to the Civil War. New laws were established dealing with compulsory military service, the regular army, and bounties. After Appomattox trained manpower and the strength of the Navy made the United States a strong power in the world. With peace, though, the country demanded the army be drastically reduced.

The Spanish-American War resulted in large sums granted to the development of a powerful navy. The turn of the century found this country assuming great importance in world affairs.

Great controversy arose under Secretary of War Root, but resolved in the General Staff being more free to formulate a much needed firmer military policy for the United States. Reform was promoted, but apathy still existed.

Preparedness, groundwork, the National Defense Act of 1916 were still hampered by lack of unity. Two world wars resulted in demobilization, but a compromise evolved and changes were found necessary.

The last section of AMERICAN MILITARY POLICY views the problems of peace, Korea and the new look, "In Time of Peace Prepare for War."

From Here to Infinity

"FRONTIER TO SPACE," by Eric Burgess. (Macmillan, 174 pages, $4.50).

Advances in medicine, engineering, rockets, and other valuable subjects are some of the benefits that come out of the destruction caused by war. High altitude rockets provide unusual data. Balloons are used for knowledge on temperature, humidity, and atmospheric conditions. Photographic plates aid cosmic ray investigation. Progress in space exploration has been extended due to the necessity and interest created and developed during World War II.

Mr. Burgess tells the story of the large region around the earth, or the atmosphere which extends from the troposphere to the beginning of interplanetary space. Diagrams, illustrations, and tables help explain the story.

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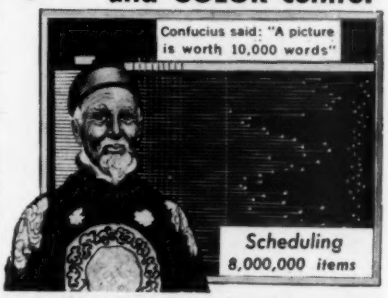

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The author devotes much of the book to the history and the development of the Viking Rocket—the rocket which travels at a speed five times faster than sound when ascending into the atmosphere of the earth. The rockets known as the WAC Corporal, V-2, Aerobee also receive consideration as to their contribution and their use in space exploration.

"How high is the sky?" is one question not answered by Mr. Burgess, but a description of the sky is given. The space around the earth is divided into four regions—the troposphere, stratosphere, ionosphere, and the exosphere. Solar radiation, cosmic rays, and the debris of space gives the reader a wide and full understanding on specialized subjects.

The writing is straight forward and clear but is technical to the point where the novice may be confused and perplexed. Terms such as equatorial electrojet, anomalous propagation, equivalent electron densities and concave grating spectograph would be word enigmas to many people. Sentences such as, "High-energy photons have been shown by Chondburg to need an energy of 181 e. v. to account for E layer ionization in addition to the normally accepted pre-ionization of O_2." are not always easy to define. If you understand this terminology and can define the quoted sentence, you are no doubt interested in the upper atmosphere and will find "Frontier to Space," exciting and valuable. I give up, because somewhere between the troposphere and the exosphere this reviewer became LOST.

From the Files of Armed Forces Management

"PUBLIC PERSONNEL MANAGEMENT," by William G. Torpey. (D. Van Nostrand, 431 pages, $5.00).

Dear Mr. Torpey:

I just finished reading your book, "Public Personnel Management," and immediately sat down to the typewriter to congratulate you on a job well done. I know you are connected with the Naval Research Laboratory in Washington, D. C., and associated with the School of Government at the George Washington University and that your book must have taken many long hours devoted to research, writing and revision.

Especially I liked your approach of combining the practical and academic viewpoint to the personnel administration in all levels of American government; federal, state, and local. The contributions of both the university and governmental jurisdiction has helped develop public service to its current status. I do believe you have attained your goal of reducing the gap between these two positions by the use of your material from personal participation in both aspects.

In the preface you state so well for whom your book is intended. "Current in thought, yet supplemented by an historical background, the book is intended as an aid to the administrator, a guide to the student, and an interpretation to the citizen. If participants in the field of public personnel management consider and supply concepts contained in these chapters to their daily operations, it is the sincere belief of the author that the human element in public administration will become a more effective and cogent means for making realistic the American democratic ideal of self-government."

Best wishes for the success of "Public Personnel Management." While the sales may be relatively small as compared to popular sellers, I know that those who do buy your book will receive their value and will find the book a good source for information on personnel management in the public field.

Yours very truly,
D. D. Corrigan

GOVERNORS ISLAND, N.Y.—Chester R. Davis, Assistant Secretary of the Army (Financial Management) reviews the honor guard at First Army Headquarters on his arrival here. Accompanying him is 1st Lieutenant Walter A. Wardinski of Brooklyn, New York.

Mr. Davis heads an orientation team which visited First Army Headquarters January 27 to explain the Army's new Command Management System. It gives commanders responsible for making operating decisions control of operating costs and is expected to make savings in manpower, supplies and equipment, and in contractual services.

During World War I Mr. Davis was an infantry company commander. He has been Assistant Secretary of the Army since March 10, 1955. He was formerly senior vice president and director of the Chicago Title and Trust Company. (U. S. Army Signal Corps Photo)

Men and War

"CHAINS OF COMMAND," by Thomas Goethals. (Random House, 312 pages, $3.95).

This is a novel of action and a novel of thought. The scene is laid in France, the location is Tiger Tac, the code name of the tactical headquarters of the American army. The time is the last part of 1944, and the headquarters is confident the German Army is about ready to collapse. All events are leading to the Battle of the Bulge.

Essentially this is the story of Lieutenant John Claybourne, recently commissioned in the field, now attached to Division G-2 of Tiger Tac. He is confused and upset by the attitude of the officers at headquarters, torn between the two worlds of the battlefield and

headquarters. Strategy, planning, and the big picture versus the action and demands of the front line.

The climax builds up slowly when Claybourne discovers that several prisoners have been captured by his old division, the 21st Infantry Division. The prisoners are from the 13th Panzer Division, and seems to prove the 13th Panzers are somewhere other than where headquarters has placed them theoretically.

Excitement and suspense mount when Claybourne accompanies General Miles on a field trip. His past thoughts and actions confront him and he searches to find peace of mind in the rigors of war. Each character is sharply drawn to heighten the tension and complete the story of men and war in "Chains of Command".

RECOMMENDED READING:

"MONOPOLY IN AMERICA: The Government As Promoter," by Walter Adams and Horace M. Gray. (Macmillan, $3.50).

A thoughtful treatment of business organization, monopoly, government action, and private enterprise.

"ECONOMIC REPORT OF THE PRESIDENT, JANUARY 1955," (United States Government Printing Office, 203 pages, 60¢).

A statement of the state and needs of the national economy, written in clear and easily comprehended phraseology.

"AMERICA'S NEEDS AND RESOURCES—A NEW SURVEY," by J. Frederic Dewhurst and associates. (Twentieth Century Fund, 1148 pages, $10.00).

A new edition of the Twentieth Century Fund's survey of the needs of the people of America and the resources and potentialities of their economy.

"BUSINESS INFORMATION," by Marian C. Manley. (Harper & Bros., $5.00).

The former business librarian of the Public Library of Newark, N. J. has compiled a complete reference book for executives and businessmen, listing how to find and use business information.

"INTERPRETATION OF FINANCIAL STATEMENTS," by Benjamin Graham and Charles McGolrick. (Harper and Bros., $2.25).

The revised edition of the standard book for those who want to understand corporation balance sheets and income statements.

"UN: THE FIRST TEN YEARS," by Clark M. Eichelberger. (Harper, 108 pages, $1.75).

On the tenth anniversary of the United Nations, Clark Eichelberger stresses the accomplishments made in the first ten years.

"BUGLES AND A TIGER," by John Masters. (Viking, $3.95).

True tales of Indian adventure by the author of "Bhowani Junction" and "Nightrunners of Bengal."

GE Demonstrates Paper Jet Performance

CINCINNATI, Ohio – How a "paper" jet engine can be flown on a giant-sized computer was demonstrated at the General Electric Company's jet engine plant here.

The demonstration was held for top military, civic and aircraft industry officials who toured the plant to view the company's multimillion dollar development facilities.

G-E engineers have developed a technique that enables them to calculate the performance of a jet engine that is still in the design stage. Using the company's new IBM 704 computer – the fastest large-scale scientific computer on the market, G-E technicians "flew" a theoretical engine from New York City to London.

THERMONUCLEAR WAR BIRDS

Intercontinental Missile Capable of Blotting Out a Major Enemy City Foreseen in 5 to 10 Years as the "Ultimate Weapon" in U.S. Atomic Arsenal

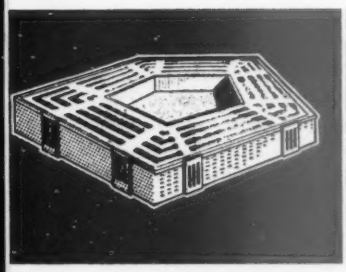
NEW YORK – Guided missiles development, No. 1 crash project of the U.S. armed services, has progressed to a point where even the most pessimistic U.S. scientists expect to put into production within "the next five or ten years," an atom-armed "war bird" capable of flying 5,000 miles to deliver a thermonuclear blast over an enemy city.

In a special cover story reporting on the problems and progress of the U.S. missile program, the Jan. 30 issue of TIME calls the long-range missile, complete with delivery system, the nearest thing to an "ultimate weapon" that has ever been conceived. "From U.S. controlled territory," The Weekly Newsmagazine says, "it could reach any part of the world, wreck the biggest city by blast and heat."

Called the ICBM (Intercontinental Ballistics Missile) this newest addition to the U.S. atomic arsenal would soar through space in an arc 500 miles above the earth, at a speed of 16,000 m.p.h. It would explode its atomic warhead with a megaton force equal to millions of tons of TNT and create a deadly radioactive fallout. Ten ICBM's timed to detonate on the ground to give maximum fallout effect, could kill much of the U.S.S.R.'s population. An enemy version could do the same to the U.S.

The ICBM, now in the engineering stage, is the latest and deadliest of U.S. atomic weapons. Long considered an impractical weapon because existing atomic devices were too large and heavy to be fitted in a warhead, the 5,000-mile missile was first adjudged a working probability in 1954 on the basis of a report made by Trevor Gardner, Assistant Secretary for Research and Development. With a topflight staff of military and civilian scientists, including John Von Neuman (now Atomic Energy Commissioner) he made a detailed study of the whole missile situation. The Gardner survey, says TIME, produced a breakthrough and started a technical revolution in the concepts of scientific war. In a relatively few years, predicted Von Neuman and his associates, thermonuclear explosives would be light and handy enough to be carried by long-range missiles of reasonable size. A T-N (thermonuclear) warhead could blot out a large city even if it exploded well outside its limits.

The Army's Nurse Corps, oldest of the women's military services, was established in 1901.



Washington Management

Department of the Army. The Army has initiated action to expand a far-reaching program designed to increase efficiency and save money in the operation of its worldwide support organization. Known as the Army Command Management System, a prototype has been operating successfully at Fort Jackson, South Carolina. Under the system, control of operating costs is given directly to the commander responsible for making operating decisions. The procedure gives the commander data on workload and costs, improves control of appropriated funds, and simplifies accounting. Army-wide adoption is planned, and immediate installation in the Sixth Army Area is being made.

Department of Defense. Of a total of 23 recommendations applying to its activities made by the Hoover Commission Report on Budget and Accounting, full or partial concurrence in 20 have been made to date by the Department of Defense.

Department of the Air Force. The Air Force has recently announced a new Industrial Production Readiness Policy that will bring the production planning effort in line with operational concepts. To achieve an industrial complex that can rapidly respond to production needs in an emergency, the Air Force plans to concentrate available resources on its most important weapons and supporting systems.

Department of the Navy. A new barrel-shaped, vertical take-off plane looms in the Navy's future. A research contract for a plane that is surrounded by a cylinder of metal instead of conventional wings, has been awarded to Kaman Helicopter Corporation. Inside the barrel—separated by a substantial space—is the body. Propellers or jets will be in the area between the "Ring-Wing" and body, and the plane would blast off with its nose pointed skyward, then level off to an almost horizontal position.

Department of the Army. Secretary of the Army Wilber M. Brucker has announced that the Army has leased to the State of Michigan the major portion of the 800-bed Army Station Hospital at Fort Custer, located at Battle Creek, Michigan. The State requested use of the hospital to alleviate overcrowded facilities. When no military requirement for the inactive hospital appeared in the immediate future, the installation was leased for the sum of $16,000 plus maintenance and rehabilitation to the State.

Department of Defense. Nine additional commercial and industrial-type activities have been scheduled for closing. The activities involved are the automotive repair shops located at: Fort Jackson, South Carolina; Camp Detrick, Maryland; Camp Drum, New York; Fort Holabird, Maryland; Fort Jay, New York; Fort Slocum, New York; Fort Wadsworth, New York; Fort Crowder, Missouri; and Carlisle Barracks, Pennsylvania. The determination to discontinue these activities is based on the Defense Department policy of not engaging in the operation of commercial industrial-type facilities unless it is militarily necessary, or the product or service cannot be obtained from other sources at a reasonable price.

Department of the Air Force. The Secretary of the Air Force has announced the appointment of Mr. Donald J. Strait, to the position of Deputy for Reserve and AFROTC affairs to Assistant Secretary David S. Smith.

Department of the Navy. The Navy has commissioned four more ocean radar station ships for offshore employment in the continental air defense system. They will be assigned to the West Coast to take stations which will extend out into the Pacific the nation's radar protection. The first four ships commissioned last year, were assigned to radar picket duty off the Atlantic coast. Designated the LOCATOR (YAGR-6), INTERCEPTOR (YAGR-8), SCANNER (YAGR-5), and the PICKET (YAGR-7), the ships will be assigned to San Francisco as home port and yard.

Department of Defense (AFPS). Congress has been requested to increase regular officer ceilings in the Army and Air Force to 49,500 and 69,425 respectively, over the next two years. The additional vacancies would be filled by giving certain reserve officers regular commissions along with additional civilian appointments. The bill would give the Army 18,900 more regulars while the Air Force would have an additional 41,925. The present regular officer ceiling in the Army is 30,600, while the Air Force is limited to 27,500. Both services are slightly below their authorized regular officer strength at the present time.

Department of the Army. Lieutenant General Willard G. Wyman, USA, slated for promotion to four-star rank, will succeed General John E. Dahlquist, USA, as head of the Continental Army Command on the first of this month.

United States Marine Corps. Should Congress pass on all points of the President's fiscal 1957 budget, the Marine Corps will be increased by 5,000 personnel and would share in 1,100 planes slated for naval aviation. In addition, the Corps is again extending invitations to active duty reserve pilots who were not more than 25 when they completed Naval flight training, to be integrated into the Regular Marine Corps. Selections are slated for early this month, and further details are available in MC Memo 1-56.

Department of the Air Force. Lieutenant General Charles B.

Stone III, USAF, former Air Force Comptroller, has assumed command of the Continental Air Command, succeeding Lt. Gen. Leon W. Johnson, USAF, nominated for a new important assignment. Lt. Gen. Manuel J. Asensio, USAF, replaces General Stone as Comptroller.

Department of Defense. New instructions, designed to keep essential defense activities going in case of an attack, have been issued to defense department employees in Washington. A wallet-sized card gives the bearer's name, position, and assigned assembly areas.

Department of the Army. The fifth reorganization of the general staff since World War II, designed in keeping with the best management principles, may be reviewed in this issue of ARMED FORCES MANAGEMENT.

Department of the Navy. Vice-Admiral M. L. Royar, USN, (featured with the Office of Naval Material in the November 1955 issue of ARMED FORCES MANAGEMENT) retired last month after more than 38 years of service. Rear Admiral (slated for Vice-Admiral) Edward W. Clexton, USN, former deputy comptroller of the Navy, has assumed the duties of Chief, Naval Material.

Department of the Air Force. A recent joint announcement by the Air Force and Convair Aircraft reveals that a B-36 intercontinental bomber carrying an atomic reactor has been flying for several weeks. The experimental project to develop an atomic-powered aircraft, has built-in safety factors to preclude an explosion resulting from an accident to the plane. The announcement said the reactor was never operated during take-offs or landings, but only "when the aircraft is flying over pre-designated areas where maximum public safety is attainable."

Department of the Army (AFPS). Consolidation of inventory control and accounting for 20,000 Army Quartermaster supply items stored in 12 depots throughout the United States will be accomplished through an Inventory Control Center at Richmond, Virginia, Quartermaster Depot. The move which will begin next month will be phased over a three-month period, and is designed to save more than $450,000 annually. Electronic data computing equipment will be utilized, and it is estimated that the costs incident to the system will be recouped in about 18 months.

Department of the Navy. A recent announcement reveals the conditional award of contracts for a ten-year time charter to the Military Sea Transportation Service of fourteen (14) tankers to be newly constructed in American shipyards, for U. S. registry, pursuant to the provisions of Public Law 575, 83rd Congress, 2nd Session.

Department of Defense. Mr. William M. Holaday has assumed the position of Deputy Assistant Defense Secretary. On leave from the Socony-Mobil Oil Company, Mr. Holaday brings to this post a vast experience in fuels and lubricants, and engineering practices.

Department of the Air Force. Conversion of U. S. Air Force B-36 heavy bomb wings to B-52 aircraft is scheduled to begin next month with the 42nd Heavy Bomb Wing at Loring Air Force Base, Maine. Replacement of all B-36 units is expected to take several years. The Air Force has one B-52 wing now stationed at Castle Air Force Base, California. Before conversion to B-52's, the wing was equipped with B-47's.

"Power For Peace" is Armed Forces Day Theme

Armed Forces Day will be observed by the military services on Saturday, May 19, 1956. The theme will again be POWER FOR PEACE.

Throughout the world, "Open House" will be held during the third week of May by the Army, Navy, Air Force, Marine Corps, Coast Guard, National Guard, Reserve forces, Civil Air Patrol and Ground Observer Corps. These activities and demonstrations will enable many more citizens to become better acquainted with their Armed Forces.

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Hamilton Standard Develops Protective Prop Coating

"Armor coating" aircraft propeller blades with a thin layer of nickel has proved an effective method of protection against damage from stones, debris, or water spray, Erle Martin, general manager of Hamilton Standard, division of United Aircraft Corporation, said today. The development now has established its worth as a major means of reducing propeller maintenance costs in more than 2,500,000 hours of commercial and military operations, he said.

The revolutionary coating process, developed after years of experimentation, superimposes several thousandths of an inch of nickel on either solid aluminum or hollow steel blades. In three years of service-testing and operation experience, it has virtually eliminated abrasion and erosion damage to the blades used on commercial Boeing Stratocruisers, USAF Fairchild C-119 "Flying Boxcars", and Navy Martin P5M flying boats and Grumman UF-1 amphibians, Mr. Martin said.

The U. S. Army—The Staff and Major Elements

The top executive of the Army is the Secretary of the Army. His authority is exercised through an Under Secretary and Assistant Secretaries of the Army down to a military staff, headed by the Chief of Staff. Principal assistants to the Chief of Staff are officers on the Deputy Chief of Staff level, who are:

Deputy Chief of Staff for Military Operations. The Deputy Chief of Staff for Military Operations is responsible to the Chief of Staff for directing, supervising, and coordinating the preparation of all Army plans (including Army aspects of joint plans) and of the troop basis for major units and deployments; for directing, supervising, and coordinating the execution of approved Army plans in all military operational activities, and coordinating implementing plans therefor; and for advising the Chief of Staff on Joint Chiefs of Staff matters. The Deputy Chief of Staff for Military Operations is the Army Operations Deputy for the Joint Chiefs of Staff. He has Army staff responsibility for all strategic, tactical, and military organization and training matters and activities of the Army Establishment. He has principal Army Staff responsibility for Army aviation, civil affairs-military government, psychological warfare, and unconventional warfare. He also directly supervises and controls the following staff agencies: the Chief of Civil Affairs and Military Government, the Chief of Psychological Warfare, and the Chief of Military History.

Deputy Chief of Staff for Personnel. The Deputy Chief of Staff for Personnel is responsible to the Chief of Staff for directing, supervising, and coordinating all matters pertaining to (1) military and civilian personnel administration and management for all components of the Army establishment, and (2) the provision of administrative, protective, and personnel services to the Army. His responsibility also extends to the supervision and control of The Adjutant General, the Chief of Chaplains, The Provost Marshal General, and the Chief of Information and Education.

Deputy Chief of Staff for Logistics. The Deputy Chief of Staff for Logistics, under the functional supervision of the Assistant Secretary of the Army (Logistics), and, under the direct supervision and control of the Chief of Staff, is responsible for planning and supervising the logistics activities of the Army Establishment. He develops and supervises Army logistical planning, organization and systems, including controls over policies, doctrine, procedures, standards, funds, manpower and personnel which are essential to the discharge of his logistical responsibility. The Deputy Chief of Staff for Logistics supervises and controls the activities of the technical staff, which consists of The Surgeon General, the Chief of Ordnance, the Chief of Engineers, the Quartermaster General, the Chief of Transportation, the Chief Signal Officer and the Chief Chemical Officer.

The Surgeon General. The Surgeon General plans and formulates medical and sanitary policies and procedures; provides and conducts programs and directs certain aspects of the medical service to insure the health of the Army; and provides and services medical material for the Army as assigned to the Surgeon General, and as assigned, for the Navy and the Air Force.

Chief of Ordnance. The Chief of Ordnance provides and services ordnance material required for the Army and, as assigned, for the Navy and the Air Force.

Chief of Engineers. The Chief of Engineers plans, directs, and supervises an engineering, construction, and real estate service for the Army and the Air Force (including military engineering support), and for other government agencies as assigned; plans, directs, and exercises technical supervision over the maintenance and repair of real property and operation of utilities plants and systems of Army installations as prescribed; provides and services the engineer material required by the Army and, as assigned, for the Navy and Air Force; provides and directs Army mapping services; administers all matters relating to construction, maintenance, and real estate necessary for the improvement of rivers, harbors, and waterways for navigation, flood control, other water uses and related purposes, and shore protection; and administers the laws for the protection and preservation of the navigable waters of the United States.

Quartermaster General. The Quartermaster General provides and services food, clothing, equipment, and supplies required for the Army, as assigned to the Quartermaster General and, as assigned, for the Navy and Air Force; and provides for the disposition of the remains of deceased military personnel and for over-all supervision of the operation of the National Cemeteries.

Chief of Transportation. The Chief of Transportation provides and secures transportation services for the Army, including technical and administrative advice and recommendations on matters relating to transportation; and provides the Navy and Air Force with land and inland waterway transportation services for which the Army has responsibility, including the administration of the functions of the Central Military Land Traffic Office.

Chief Signal Officer. The Chief Signal Officer plans, directs, and supervises signal communications and related activities, including Army photography; provides and services communications and photographic material required for the Army and, as assigned, for the Navy and the Air Force; and administers the Alaska Communications System.

Chief, Chemical Corps. The Chief, Chemical Corps, studies and investigates toxicological warfare, including chemical and biological warfare and radiological defense, and provides and services material and equipment pertaining to these types of warfare, except as specifically assigned to other agencies.

Chief of Research and Development. The Chief of

Research and Development is responsible to the Chief of Staff for planning, coordinating, directing, and supervising all Army research and development. Within his scope of responsibility, his relationship to the Chief of Staff and the Army Staff is that of a Deputy Chief of Staff. He deals directly with the technical staffs and services, but coordinates closely with the Deputy Chief of Staff for Logistics before issuing any directives. Functionally, the Chief of Research and Development formulates, coordinates, directs, and supervises Army research and development policies, plans, and programs, including those pertaining to operations, human resources, and global environmental research; he monitors the materiel segment of the Army combat development program; he supervises engineering and user test programs; and he coordinates the Army's research and development programs with any other Army programs and activities.

Comptroller of the Army. The Comptroller of the Army is under the direct supervision and control of the Assistant Secretary of the Army (Financial Management) and is concurrently responsible to the Chief of Staff. He is responsible for all budgeting, accounting, progress and statistical reporting, and auditing in the Army Establishment, for the administrative organization structure and managerial procedures relating thereto, and for the supervision of legislative policies and other matters pertaining to appropriation acts. He also has Army Staff responsibility for procedures pertaining to the Army Program System and for the management engineering activities of the Army Establishment. Within his scope of responsibility, the Comptroller of the Army's relationship to the Chief of Staff and the Army Staff is that of a Deputy Chief of Staff. The audit functions of the Comptroller of the Army are discharged through the Army Audit Agency. He also supervises and controls the operations of the Chief of Finance.

The operational element of the United States Army is called the Army Field Establishment. It is composed of the Continental Army Command, the Army Antiaircraft Command, the Army Security Agency, Oversea Army Commands, and Class II and III installations and Class II activities under the command of staff agencies of the Department of the Army.

Continental Army Command. The Commanding General, Continental Army Command, headquartered at Fort Monroe, Virginia, commands the six armies within the Continental United States, the Military District of Washington, and such other units, activities, and installations as may be assigned to the Continental Army Command by the Department of the Army. He is charged with the general direction, supervision, coordination and inspection, of those matters pertaining to the development of tactics, techniques, organizations, doctrine and materiel for use by the Army in the field, and with the training and training inspection of the Army in the field within the Continental United States. On those matters which are the primary responsibility of Continental Army Command, but which also involve participation by the Commanding General, Army Antiaircraft Command and the heads of Department of the Army agencies, in their command capacities, the Commanding General, Continental Army Command, issues instructions to the heads of the agencies concerned. The six Armies within the Continental United States are:

First Army (Headquarters, Governors Island, New York 4, New York)—Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, New Jersey, New York, Vermont.

Second Army (Headquarters, Fort Meade, Maryland)—Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Kentucky, Ohio.

Third Army (Headquarters, Fort McPherson, Georgia)—North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee.

Fourth Army (Headquarters, Fort Sam Houston, Texas)—Arkansas, Louisiana, Texas, Oklahoma, New Mexico.

Fifth Army (Headquarters, Chicago 15, Illinois)—Michigan, Wisconsin, Illinois, Missouri, Indiana, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Wyoming, Colorado.

Sixth Army (Headquarters, Presidio of San Francisco, California)—Montana, Washington, Oregon, Idaho, Utah, Nevada, Arizona, California.

Military District of Washington, with headquarters at Washington, D.C., includes the District of Columbia and certain adjacent counties of Virginia and Maryland.

Army Antiaircraft Command. The Commanding General, Army Antiaircraft Command, with headquarters at Ent Air Force Base, Colorado, represents the Department of the Army on all operational matters pertaining to the Army's responsibility for air defense of the Continental United States. The Army Antiaircraft Command consists of such subordinate commands and Army units, as from time to time, may be allocated for the air defense of the Continental United States. It is the Army component of a joint command, the Continental Air Defense Command.

Army Security Agency. The Army Security Agency is a field operating agency of the Department of the Army. The Chief, Army Security Agency, commands all Army Security Agency Personnel, units, installations, and activities not otherwise specifically assigned. Policy precludes discussion of its mission and activities.

Oversea Army Commands. Oversea Army Commands consist of Army components of unified commands as well as separate Army Commands. These elements, based in strategic areas throughout the world, are:

United States Army, Alaska
United States Army, Caribbean
United States Army, Europe
United States Army Forces Far East and Eighth U.S. Army

Class II and Class III Installations and Class II Activities. Class II and Class III installations and Class II activities are under the command of the heads of certain Department of the Army staff agencies. The Class II installations have primarily a logistical function; Class III installations have both logistical and other functions.

Conservation through Suggestions

The Infantry Center, Fort Benning, Georgia. Job improvement suggestions made by the Infantry Center in 1955 soared to nearly twice the number submitted in 1954, and are reported to be saving the Army approximately $153,414 annually. Entering the eighth year under the Incentive Award Program, Fort Benning received 213 suggestions in 1955. 131 were from civilian employees and 82 by servicemen now eligible for small cash awards. Nineteen civilian employees were honored with Sustained Superior Performance Awards during the year and received checks ranging from $100 to $300.

Electronic Supply Office, Great Lakes Naval Training Station, Illinois. During 1955, awards totalling $4,252 were presented to 195 employees for their adopted Beneficial Suggestions and Methods Improvement Proposals. The value of tangible savings to the government from 62% participation was $53,321. One of the highest awards granted was $335 for an improvement suggested by Mr. John Mazurkiewicz in compiling and disseminating information on substitute material. Savings realized during the first year totaled over $21,000. Lewis D. Smith received $300 for his investigation and recommendations resulting in ESO acquiring the Flexowriter system used in preparing the Master Characteristic Sequence File and catalog data on all electronic items. A high percentage lad is Ernest Hanlin who has submitted twenty-two suggestions with sixteen hitting pay dirt.

Aviation Engineer Force, Wolters Air Force Base, Texas. From management improvement suggestions implemented by units of AVENGRFOR, the Directorate of Manpower and Organization, estimates a savings of $458,054.06 during the calendar year of 1955. In addition to being implemented within the 22 units of the Aviation Engineer Force, all have been forwarded to Continental Air Command for dissemination to other Air Force activities.

State Department, Washington, D.C. The State Department presented the highest award in its history recently to Raymond L. Stegmaier, technical security officer. $1000 for an invention of a 12-cent lock which will enable it to keep a tighter hold on secrets. The device which insures the security of certain four-drawer three-way combination filing cabinets, will save about half a million dollars. The department has ordered 10,000 of Stegmaier's locks at 12 cents each.

Army Chemical Center, Edgewood, Maryland. Mr. Lester J. Conkling, Supervisory Chemical Engineer, was selected recently as one of ten recipients of the first annual Career Service Awards presented by the National Civil Service League for 1955. Mr. Conkling, the only civilian employee of the Department of the Army to win the award, in addition, received a personal congratulatory letter from Secretary of the Army Wilber M. Brucker.

Oakland Naval Supply Center, Oakland, California. Admiral Charles G. DeKay, USN, Commanding Officer, in recent ceremonies presented 27 employees with a $902 jackpot for ideas that spell out better, quicker, cheaper or safer ways of doing their jobs. Savings of more than $16,000 each year are anticipated. A few of the winners and their ideas are as follows: Lester R. Morris, $175 for designing a card, showing when and why a specific item is not in stock, to be attached to the master file card that locates the item in the warehouse, thus eliminating fruitless searching for not-in-stock items. Mrs. Mary G. Nelson earned a $155 award for suggesting $5,000 worth of money-saving changes in the Navy Comptroller Manual. Carroll R. Carman, $121 award for modification to materials handling trucks.

Air Research and Development Command, Baltimore, Maryland. Four centers of ARDC were recently rewarded in ceremonies for "Superior Management of ARDC Resources." Measured under "The Executive Control System", the awards, an inscribed trophy and three pennants, were presented at the ARDC Vice-Commander's Conference.

Headquarters United States Army Caribbean, Corozal, Canal Zone. Lt. Col. Eugene F. Krueger, former commissary officer was recently presented with a Department of the Army Certificate of Achievement for outstanding performance of duty by increasing efficiency and saving the United States Government approximately $55,000 per year. Colonel W. R. Seymour, USARCARIB Quartermaster made the presentation.

Detroit Arsenal, Center Line, Michigan. Mr. Charles W. Banton, Jr., and Mr. Raymond E. Schulz, were recently presented with checks for $300 and $110 by Colonel Roger H. Hemion, Commanding Officer. Mr. Banton received his award for Outstanding Performance of Duty and Mr. Schulz for a suggestion entailing savings to the Government of approximately $3,500 annually.

Military Sea Transport Service (NorPac) Seattle, Washington. Captain N. E. Smith, USN, Chief Staff Officer at NorPac, recently presented awards to eight civilian employees. Mr. Willie F. Dong, Chief Pantryman, received the Navy's second highest civilian award and a check for $300. Another top winner was Oscar Gibson, who received $135 for his suggestion to remove grating and plugs from the USNS VALENTINE when the ship was used for general cargo, which led to a round-trip savings of $4,270.

Headquarters 34th Engineer Group, Fort Ord, California. SFC Bobby P. McGovern of Company "C", 84th Engineer Battalion (Construction), was recently awarded the Commendation Ribbon with Metal Pendant by the Department of the Army for his outstanding work in salvaging a $100,000 amphibious vehicle which was stranded in the surf off Marina Beach last February. The vehicle, or "Superduck", was capsized in the heavy surf and defied all salvage attempts by Army and Navy personnel. SFC McGovern who planned and executed the successful salvage, was presented the award in a special ceremony by the 34th Engineer Group.

Army-Air Force Exchange Service, New York City. At the direction of Major General H. L. Peckham, Chief, A&AFES, a "Forms Elimination" program was started in July 1955. Within five months some 59 had been eliminated, and at the present the number stands at 81.

Fort Dix, New Jersey. Inventive minds are paying off at Fort Dix, with soldier and civilian suggestions in 1955 resulting in a post savings of $42,000. Cash awards for the 222 suggestions submitted totaled $940. The thirty-two adopted suggestions cover a wide range of improvements.

Seattle Army Terminal, Seattle, Washington. The Suggestion Program got off to a fast start in 1956 with nine employees receiving a total of $230 for cost-saving ideas. Heading the recent award list was Mrs. Faye W. Johnson, former supervisory clerk in the Troop Movement Division who received $100 for her suggestion that a joint message form be printed for use in issuing telegrams authorizing coordinated travel. The idea will save almost $3000 in its first year. Figures recently compiled for 1955 show the Program has increased 54% over the previous year.

Barksdale Air Force Base, California. M/Sgts. Charles W. Stein, 376th FMS, and Marion L. Allison, 805th Supply, each received $25 for their money and time saving suggestions that will be forwarded to SAC for consideration of further cash awards up to $100.

Naval Station, Tongue Point, Astoria, Oregon. More than $10,000 was saved by using 111,067 gallons of oil salvaged from vessels to fuel the station heating plant boilers.

Wiesbaden Air Force Depot, Germany. More than $3-million has been saved in the Air Force Management Improvement Program during 1955. Able to divert the savings to other projects in Europe, this is a real example of "stretching the Defense dollar".

Chicago Quartermaster Purchasing Center, Illinois. During the calendar year 1955, a total of 225 suggestions were submitted and 56 adopted, representing a 44% increase compared to 1954. Civilian employees received $640 for adopted suggestions and $700 for Special Services bringing the grand total to $1340.

Robins Air Force Base, Georgia. Cash awards totaling $1840 were recently presented to 11 employees by Major General A.V.P. Anderson, Jr., USAF, WRAMA Commander. Top award winner with a check for $290 was Archie McCrimmon, for his suggestion to use a double test tube for testing oil coolers, resulting in tremendous savings.

Headquarters First Army, Governors Island, New York. In a drive aimed at reducing the accumulation of excess records, installations of First Army have eliminated more than seven miles (39,000 linear feet) of files during the past year. Representing the contents of 6500 filing cabinets, repair of cabinet savings alone amounted to almost $200,000.

U.S. Naval Supply Depot, Scotia, New York. Fourteen employees recently shared in the Beneficial Suggestion cash-pot of the Depot. Too numerous to mention, each represents dollar-savings to the Navy and contributes to the cost-conscious Defense program.

Headquarters Seventh Army, Germany. Captain Jack Kruse and Master Sergeant George Longo have developed a new Tank Refueler costing only $570, compared to the $8,900 present-day standard refueling unit, which reduces by two-thirds the time now required to refuel a tank or other armored vehicle. Quick to recognize the value of the new refueler, the Quartermaster has purchased 70 of the quick-dispenser units for distribution to armored units throughout the command.

Langley Air Force Base, Virginia. Last spring, Brigadier General Edwin S. Chickering, 405th Fighter-Bomber Wing Commander, became interested in a program that would alleviate a shortage of JATO adapters being used by the Group. Results—? You guessed it, they are being rebuilt. At the present time, the cost of 100 new units would be $59,719. Cost of retrieving and repairing these same 100 units is approximately $5000 or a difference of almost $55,000.

New Orleans, La. Colonel William H. Lewis, District Engineer of the New Orleans District, Corps of Engineers, at a general assembly of all reservation employees, presented cash awards totaling $535.00 to three employees and letters of commendation to three employees for their work improvement recommendations which effected efficiency and economy in operations.

Sharpe General Depot, Stockton-Lathrop, California. Five civilian employees were recognized for their efficiency, economy and effectiveness in performing their duties by a total of $985.00 in Superior Performance Awards and Special Service Award Act. Twenty-two other employees of the Depot were paid a total of $315.00 for suggestions improving production and operating conditions.

Dry Cell Batteries 'Keep' Longer, Army Says, in Freezer

WASHINGTON — Who put the flashlight batteries in the deep freeze?

Some smart U.S. Army Signal Corpsman, in all likelihood. He picked up the idea from the Army which is now refrigerating its dry cell battery storage facilities to near-zero temperatures in European depots. Batteries so stored will remain in usable condition for several years.

PRODUCTS

designed to deflate production Costs

As a service to OPERATING DEPARTMENTS and PURCHASING OFFICERS, ARMED FORCES MANAGEMENT will provide you with a selected list of manufacturers' products.

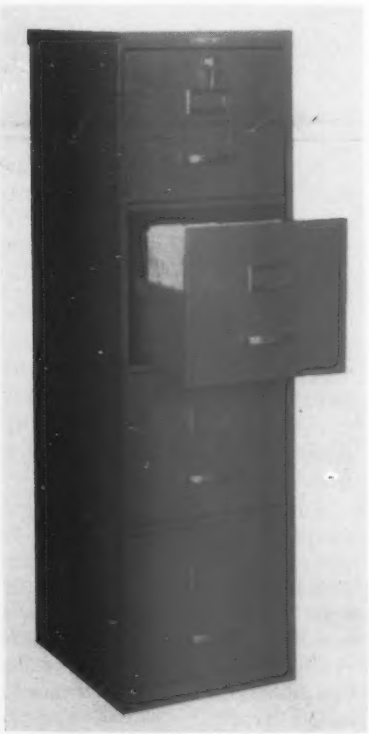
How to Use Armed Forces Management's Library—

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

SLIDE RULE

Pickett & Eckel Incorporated. A new and improved slide rule computed and permanently positioned to a plus or minus .000275-inch accuracy on a thin, warp-proof, light metal body unaffected by climatic conditions, has recently become available for distribution. Attractively packaged in a California saddle-leather case, this nominally-priced Pickett Slide Rule is made in green-yellow color making it much easier to read.

For more facts request No. 1 on reply card



4-DRAWER LETTER FILE

General Industrial Company. (See Cut). Recently announced this new 4-drawer letter file with a locking top drawer, is available for $29.75. Engineered for strength and low-maintenance, the non-sag, non-suspension drawers glide smoothly on ball bearings in silent operation. They are equipped with follow blocks, standard in size, and made of heavy-gauge furniture steel. Can you justify paying more than this amount for a cabinet of this type? Full descriptive information is available.

For more facts request No. 2 on reply card

HIG-3 AND HIG-4 GYROS

Greenleaf Manufacturing Company. Important new design features and a considerable reduction in price of its HIG-3 and HIG-4 Gyros have been announced by this corporation. Company officials stated the new redesigned and retooled version known as model 2, is in full production and that delivery can be made almost immediately. Further information and technical specifications are available to interested personnel.

For more facts request No. 3 on reply card

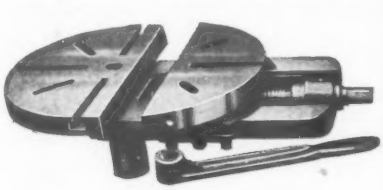
MINI-MIKE

Telex Incorporated. "Mini-Mike", a low cost, miniature dynamic speaker-microphone with exceptional performance factors, is now in quantity production. The compact unit, which weighs only 1⅛ ounces and housed in a steel and thermosetting plastic case measures 1″ x 1″ x ¾″ in size. Sensitivity of the microphone with transformer is 52 DB below 1 volt per dyne per square centimeter of sound pressure. Ideal for electronic units requiring transmitting - receiving units, the "Mini-Mike" is finding hundreds of practical uses.

For more facts request No. 4 on reply card

SAFETY DRILL TABLE AND VISE

Rolfe C. Spinning, Incorporated. (See Cut). For maintenance jobs the Safety Drill Table and Vise saves time and prevents accidents. It replaces the old drill table and



the operator can drop in the work and start drilling in a few seconds. Eliminating the need for parallels, V-blocks and clamps, it handles all sorts of odd shapes and sizes. The manufacturer will be pleased to place one of these time and labor saving tables in your installation on trial, subject to return in 30 days, return transportation paid, if you do not agree on its applicability. Illustrated literature and further information is available.

For more facts request No. 5 on reply card

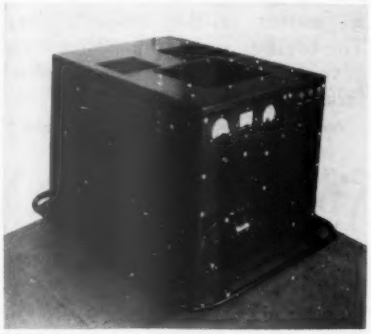
POST OFFICE EQUIPMENT

The Federal Equipment Company. This time-honored manufacturer of post office and mail handling equipment, has opened a new division to assist postal officers by aiding in the design of post office layouts and by providing fast attention to inquiries and orders. Increased interest in the new combination lock boxes, permitting men to pick up their mail at any hour, has been one of the reasons for the activation of the new department.

For more facts request No. 6 on reply card

BATTERY HEATER AND CHARGER

Fox Products Company. (See Cut). A new type of battery heater/charger designed to overcome difficulties inherent in operating lead-acid storage batteries has

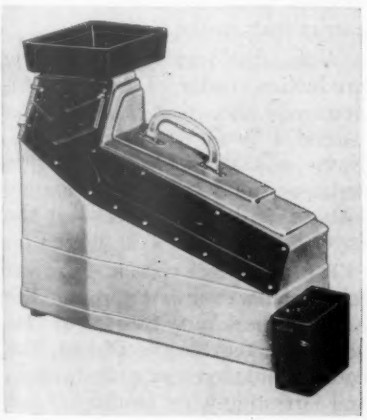


been announced by Fox Products Company. Designated the Model 11, the unit, first developed for use by the Army in Korea, is fast becoming known within the United States. The Fox unit, which is designed for use with either 6 or 12 volt batteries, can be set to perform any of three functions: (1) maintain battery at desired temperature automatically and indefinitely (2) charge battery at a pre-selected rate; or (3) simultaneously and automatically heat and charge battery at proper rate. Complete technical information on this low cost heater/charger is available from the products library.

For more facts request No. 7 on reply card

COIN SORTER

J. B. Carroll Company. (See Cut). A new type coin sorter completely void of moving parts, is claimed to sort coins faster than larger, elaborate, mechanical units. Known as the Carroll No. V-109 Speed Sorter, and retailing for $55,



the new machine operates entirely by gravity. Ideal for Exchanges, clubs and theaters, the new low-priced sorter appears to be the answer to the tedious job of counting small change. We shall be glad to send you complete descriptive literature without obligation.

For more facts request No. 8 on reply card

AUTOMATIC METAL PLATE EMBOSSING MACHINE

Dashew Business Machines, Incorporated. Employed by the Air Force and other military establishments for the past four years, a new system whereby the DATABOSSER, can be obtained on a lease basis, has recently been announced. Cost studies show that a Databosser installed under the rental plan will show a profit in economies and efficiences derived from the Dashew system for identification and control of materials and parts-in-process involved in production, storage, shipping and receiving.

For more facts request No. 9 on reply card

OPTICAL-TYPE ANALOG TO DIGITAL ENCODERS

Baldwin Piano Company. This organization is now manufacturing 13-digit and 16-digit optical angular position encoders of high accuracy, small size, light weight, and rugged construction which represents an innovation in precision analog to digital conversion. The Baldwin Piano Company for many years has been conducting research along the lines of electronic organ tones, and hearing of this, the Signal Corps has contracted for special machines for making high accuracy binary code disks for analog-to-digital encoders. Due to the technical nature of the equipment, an interesting brochure has been prepared for you without obligation.

For more facts request No. 10 on reply card

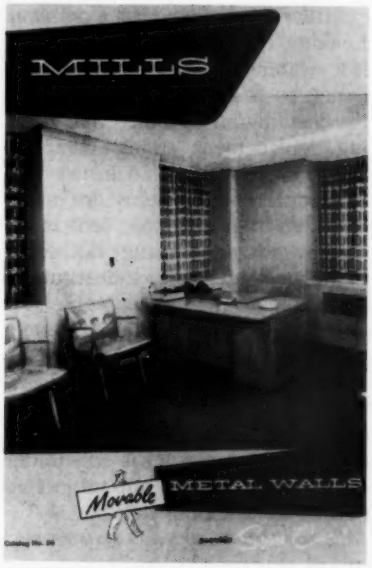
LABELON TAB INDEXING

Labelon Tape Company. A new self-sticking, plastic-protected indexing tab costing up to 30% less than any other index tab on the market, has recently been announced. Quicker and easier to use as typing is done directly on the protected Tab itself, no separate card need be typed or inserted. Since the Tabs are pressure sensitive, they stick without moistening and strip off when desired, cleanly from most smooth surfaces. Available with borders in red, black, green, blue or yellow, samples will be forwarded for your investigation.

For more facts request No. 11 on reply card

MOVABLE METAL WALLS CATALOG

Mills Company. (See Cut). "Mills Movable Metal Walls provide Space Control" is the theme of the 1956 Mills Walls Catalog, a 68-page workbook of detailed in-



formation on flexible interiors for offices, factories, schools, hospitals, military installations and buildings of every type. Featured in the new catalog are more than 50 photographs of typical installations. Easy to construct, economical and fire-resistant are but a few of the virtues of this modern way of construction. The catalog shown is a "must" for Base and Post Engineers and Facilities Officers, and requests must be on installation stationary.

For more facts request No. 12 on reply card

TRAVEL TIPS AVAILABLE FOR ONLY POSTAL CARD

New York (AFPS)—Help is available for the ever-traveling serviceman who finds his clothes crumbled upon arriving at his new station.

The assistance is in the form of a free booklet, "The Right Way to Pack a Man's suitcase," published by the American Express Co. It may be obtained by sending a post card to the company at 65 Broadway, New York City.

For more facts request No. 13 on reply card

MUTUAL INVESTMENT FUND FACTS

Brown, Madeira, and Company. This company, specializing in mutual investment funds, will send, without obligation, facts about conservative, middle-of-the-road, and aggressive types of investments and mutual funds.

For more facts request No. 14 on reply card

BELCO REPLACEMENT FAUCET STEMS

Miller Manufacturing Company. Leaking compression type faucets, lost water and excessive maintenance costs are gone forever with the installation of Belco ball bearing replacement stems, complete with bibb washers. To insure perfect replacement, stems are made to order from a sample sent in by the purchaser—housing authority, military installation or institution. Stems include the Belco valve seat unit. The moment the rubber faucet washer contacts the seat its turning action stops and the ball bearing takes up the load, exerting nonturning pressure on the washer seat. The bibb washer is only under compression and is not subject to cutting or grinding action.

For more facts request No. 15 on reply card

VISUAL MANAGEMENT CONTROL

Graphic Systems. This New York firm invites men interested in efficient management to get things done with Boardmaster Visual control which gives a graphic picture of operations, spotlighted in color, saves time, money, and stops errors.

For more facts request No. 16 on reply card

COMMON STOCK INVESTMENT

Hamilton Management Corp. Through Hamilton Funds, Inc., a managed common stock investment fund, this firm offers lump sum or monthly investment plans to fit any budget. Interested persons can inquire without obligation. Firm recently declared another quarterly dividend.

For more facts request No. 17 on reply card

FREE STORAGE LAYOUT SERVICE

Equipto Division of Aurora Equipment Co. Free layout service to assure better storage facilities for less money is available from Equipto. Take advantage of valuable advice on the number and kind of storage units to buy, furnished with complete floor plans and elevation drawings.

For more facts request No. 18 on reply card

ALL-PURPOSE HAT AND COAT RACKS

Vogel-Peterson Company. Snap-over hooks to replace hangers give double capacity in same area. Checkerette racks can be set up or taken down in a minute without nuts, bolts, or screws, are strongly built of welded heavy gauge steel.

For more facts request No. 19 on reply card

VISUAL CONTROL BOARD

Wassell Organization, Inc. Produc-trol not only schedules but automatically checks with time, line, and color control, has low original and upkeep cost.

For more facts request No. 20 on reply card

A limited number of leatherette bound copies of ARMED FORCES MANAGEMENT, Volume 1, October 1954 through September 1955, are available at $10.00. Those organizations and individuals who have already ordered Volume 1, need not reorder. It is requested that orders be addressed to Librarian, ARMED FORCES MANAGEMENT, 208 South Second Street, Rockford, Illinois.

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Complete protection on automobile insurance plus savings over standard rates of up to 30% are available from this firm. Unexcelled claim service and nation-wide protection are offered by this firm with over a quarter million policyholders. The savings and protection are for government employees and armed forces personnel.

For more facts request No. 21 on reply card

Delta Promotes Ross To Military Transportation

Henry Ross has been promoted by Delta Air Lines from sales manager in Columbia, S. C., to manager of military transportation in Atlanta, where he will be in charge of all military movements on Delta and maintain close contacts with military bases throughout the airline's system of 57 cities.

A native of East Palestine, Ohio, Ross attended Duquesne University and served in the Air Force from March 1941 until January 1946, with the rank of captain.

Employed by Delta in 1946 as reservationist in Cincinnati, he transferred to Columbia in 1947 and was promoted to sales manager in 1948.

SeaStar Production Extended Through 1957

BURBANK, Calif. — Production of SeaStar jet trainers was extended through 1957 as Lockheed Aircraft Corporation announced a new $25,000,000 order for the Navy's first carrier-based schoolplane.

Known also as the T2V-1, the SeaStar is now rolling off Lockheed's production lines at Burbank and Palmdale and is scheduled for delivery to the fleet for first regular carrier tests in the Fall.

With disclosure of the new production order, Lockheed announced also that the SeaStar earned a "well done" from U. S. Navy officials in completing a series of simulated carrier landing tests on a dry-land "deck" at the Inyokern Naval Air Test Station.

The two-place jet is the first schoolplane ever put through the carrier check-out course at Inyokern, in the Mojave Desert. The course included catapult takeoffs and arresting-wire landings.

Let's Get Rid of the Comptroller

—By—
Colonel Robert E. Lee Masters

NEXT TO Bulganin and Khrushchev there is probably no one held in lower esteem by the loyal, hard-working Army Federal Civilian Employee or the unindoctrinated military manager than "The Comptroller."

"Old Money-Bags" or "That Penny Pincher", two of the more polite terms used by line management to describe this ever increasingly important member of the management family, is held responsible, per se, for every evil from reductions-in-force to failure of an individual to get a promotion.

While this opposition to "The Comptroller" is not peculiar to the army establishment, the psychological aversion to him in other areas appears to stem from different causes and is not appropriate to this discussion.

The word comptroller, as most of us know, stems from an erroneous spelling of controller. It is not necessary to pursue this academic fact further. Too much of the opposition to "The Comptroller" is already based on the association of comptrollership with control. All forms of matter, whether they be animal, vegetable or mineral, are amenable to control only to the extent that it is unescapable. A discussion of the need for control in government or business only provokes argument based on this inherent dislike for control and leads into discussions of related concepts such as the assignment of responsibility and delegation of authority.

It is disturbing to observe that in many instances the top civilian and military officials we send off to courses and seminars for management return, not endowed with an appreciation or understanding of the basic concepts of comptrollership in the army, as set forth in AR 10-82 and explained in DA Pamphlet No. 35-10, but even more vociferously opposed to the concept than before.

The theory of teaching today is generally opposed to taking a positive position with respect to subjects or concepts wherein there are major disagreements as to the approved or workable solution to problems involved. In such situations it is usually best to present sound arguments for both sides of the question and, through discussion amongst themselves, let the students or the group arrive at their own conclusions.

However, when top management, the army in this instance, has adopted and published as policy certain concepts of organization and assignments of functional responsibility, courses or seminars designed to indoctrinate managers in certain management concepts and techniques should devote reasonable time and effort to establishing in the minds of these managers the reasons for and advantages of the concepts adopted.

Most assuredly all reasonable concepts of management should be discussed openly and freely but they should not be the objects of tirades, either for or against, on the part of opinionated moderators.

It is unfortunate that the army, in effecting a logical grouping of interdependent management services, elected to damn the organizational element with the title least palatable to the line and the other staff elements, "The Comptroller".

Too many opponents of the concepts under which the Comptroller's Office has been organized argue in fact not so much with the concepts as with the implications of the title.

Too many of our management officials see in the present concept of organization a tendency to place a variety of specialized fields under the control of the installation bookkeeper and by so doing, a tendency to place managers at the mercy of an individual whose sole interest lies in making 2 plus 2 equal 4.

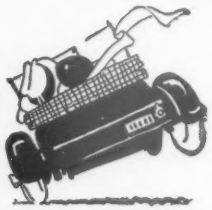
It is true that initially some bookkeepers and accountants became installation comptrollers due to the preponderance of budgeting, accounting and audit functions in the offices as first established. In such instances the incumbent has either demonstrated his ability to expand with the job, to assimilate and evaluate the increasing variety of data developed by the activities under his jurisdiction, and to develop therefrom sound recommendations for his commander, or he is back at his old desk keeping books.

There are many factors to be considered in managing a business today. Considered individually or in improper relation to one another these factors can be misleading and if used as a basis for decision can result in disaster.

In any final analysis the limiting factor influencing a decision is the availability of funds or the ability to get the necessary funds.

Realistic top management, from the President of the United States on down the line, has come to recognize that an attribute for admission to the coronary club is the necessity, real or imagined, for the head man to deal with innumerable

ARE YOU MOVING?



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lesser chiefs in the collection of facts upon which to base decisions.

Realistic top management also recognizes that no matter how good some proposals may sound, they are frequently innocently distorted by the personal enthusiasm of the proponent and through his failure to recognize limiting factors present elsewhere in the overall organization.

Is it not necessary or at least highly desirable that we have one element in the organization with the assigned responsibility for reviewing where we have been, where we are and where we propose to go and that this organizational element be immune from influences other than the good of the enterprise as a whole?

Sound decisions by management must be based on overall considerations and not on local or personal advantages. More and more management in government and in business is turning to the scientific approach to decision. Like the chemist and the physicist, management must know how to achieve the proper mix of the ingredients essential to the attainment of management's objectives and to be able to immediately detect ingredients that are missing and those that are superfluous. Embarrassing if not explosive results can come from an improper mix.

The application of mathematical techniques and the scientific approach to decision making requires the highest regard for facts and a special mental attitude not inherent, indeed not desirable in many of the positions in the line and in other staff elements.

The very characteristics that are desirable in a Comptroller's Office, an insatiable appetite for facts, are the very characteristics to which many managers in the line take exception. They feel that this insistence upon all the facts and the weighing of facts pertaining to a single problem against overall considerations is indicative of a lack of progressiveness and a lack of the spirit of adventure.

One of the favored methods of overcoming opposition to the Comptroller's Office as it is now organized is to divorce management engineering services, as we understand them, and to set these up separately and on the same level as the comptroller. We have then deprived the comptroller of one of his essential tools for evaluating what we are doing and how we might get the increased production we need without corresponding increases in the funds we have available to us. We also have two heads for the decision maker to deal with rather than the one that we had before.

Another popular concept is to do away with any centralized management engineering and to establish these services in each organizational element. With the paucity of qualified management engineers the luxury of this concept would not be possible even though the personnel were available in sufficient numbers at the grades currently allocated to these positions in the government service.

Would it not be desirable to devote more time in army management courses and seminars to an explanation of the reasoning back of the concept of assigning the comptroller responsibility for those functions listed in paragraph 5 of AR 10-82?

Can't we get rid of "The Comptroller" as a title for the office assigned responsibility for providing these services to management? Let's call this the Management Consultant Services Office or by some other more palatable title which will disassociate it from the word control.

Bayer would never have sold so many aspirin under the name of Acetyl of Salicylic Acid.

GE to Stage Person-to-Person Talk

CINCINNATI, Ohio—A "person-to-person" conversation between a huge test cell and a giant electronic computer over a 1,000-mile line was staged by the General Electric Company February 9.

This was a demonstration for top military, civic and aircraft industry officials who will tour G-E's jet engine development facilities.

The demonstration consisted of an actual jet engine compressor test in the company's laboratory at Lynn, Mass., which was seen by the Evendale, Ohio plant visitors on a closed-TV circuit setup. The visitors saw this test on a TV-screen in the company's new computer building where test results were received over a private telephone line.

Karman Named Gruen Lab Director

Dr. Theodore von Karman, senior scientific adviser on aeronautics to NATO and the United States Air Force, has been named a director of Gruen Precision Laboratories, Inc., newly formed subsidiary of the Gruen Watch Company of Cincinnati. The announcement was made by Edward H. Weitzen, president of the eighty-year-old parent corporation. An internationally known authority in aerodynamics, Dr. von Karman will participate actively in Gruen Laboratories as chief of the Planning Board.

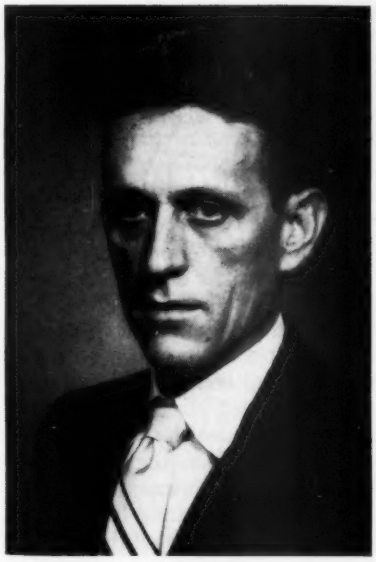
Known as the man who exercised the greatest influence in the development of high speed aircraft in the United States, Dr. von Karman holds two key positions in the western world's air defense system. He is chairman of the aeronautical research and development group of NATO and chairman of the United States Air Force's scientific advisory board. In 1954, he was awarded the Wright Brothers Memorial Trophy for his contributions to the science of aeronautics.

But What About Air Force Leadership?

by James V. Farrell and Kenneth J. Groves

Air University

Farrell



Groves

The problem

WHAT should be emphasized in leadership research and training programs? This paper attempts to make a beginning on the answer to this complex question by inquiring into the general requirements for—and principles of—leadership, and also into the unique aspects of particular leadership situations. This problem is viewed primarily as it relates to the armed forces, and particularly to the Air Force. It can be expressed more clearly as follows: Does Air Force leadership belong to a species different from leadership elsewhere, e.g. business and industrial leadership? This paper concludes that there is a difference, pointing out both the differences and their implications for research and training.

Background

Some parts of the total problem of Air Force leadership and leader behavior seem to have been minimized in the research literature and in programs for the development of leaders. Several reasons for this situation can be identified.

First, somewhat of an omnibus approach to leaders and leadership can be currently recognized. Several reviews of the literature[1,2,3]* indicate a variety of definitions for leadership. There appears also to be an assumption that leadership in various situations is synonymous and transferable. This assumption is allowed when leadership is considered to be a generalized substance rather than an idea or concept.

A second, closely related reason, is the tendency to consider leader, manager, and executive as being synonymous terms. Or, to put it another way, the managing aspects of a position—the guiding, administering, and directing activities—are associated with leadership, and the idea of leadership is carried no further. There is a tendency to identify the good manager as the good Air Force leader.

Finally, there is a tendency to consider the Air Force leadership situation entirely apart from the functions which are assigned to the armed forces.

The omnibus approach

What has been referred to as the omnibus approach is basically the attempt to establish *leadership* as an entity or substance which all leaders share. Such an approach is similar, for example, to the universal, *phlogiston*, which was considered in times past to be a substance present in all materials that would burn. Or again, the same approach is illustrated by those who would establish *matter* as a substance present in all material objects; and those who establish *life* as a substance which is found in all living beings.

Evidence that *leadership* is sometimes considered to be a generalized substance is found in the trend which assumes that the principles of business leadership and industrial leadership, or a combination of these principles, are directly transferable to Air Force leadership situations. This assumption of general transferability appears to be inferred as often as it is stated, but it has on occasion been explicitly stated. For example, the following remarks of Fillmore, H. Sanford to the Panel on Human Relations and Morale, Committee on Human Resources, Research and Development Board, in October 1951, are illustrative:[4]

In this presentation I will try first to summarize the results of published research on military leadership, pointing out some of the knottier and as yet unsolved problems such research has confronted. Then, because *military leadership does not appear very different from other kinds of leadership*, I shall turn to a consideration of some of the research and thinking about the general psychology of leadership. Finally, there will be a very brief look at one way we may succeed in constructing a comprehensive theory of leadership . . . .

An illustration of a similar problem can be drawn from biology.

*Cited references appear at the close of the paper.

Biologists have been involved in the past, and some are so involved today, in a search for an entity or substance which they call *life*. Although there is probably no generally agreed upon definition of life, such functions as the following have been used in describing it: self-preservation and reproduction; or locomotion, irritability, growth, nutrition, elimination, and reproduction. In recent years, however, some biologists have begun to question the wisdom of searching for this entity, *life*. For example, some virus behave as living material under certain circumstances, but have the characteristics of inanimate matter under other circumstances. If one assumes that there is a substance called life, it is truly a puzzling problem how these virus receive this substance on some occasions and lose it at other times.

Today many biologists strive to relate the pattern or organization of a living thing to the behavior which is observed, and thus attempt to discover how the living being in question works. This appears to be a more fruitful direction to pursue for an understanding of a living being than to continue the search for a universal substance called *life*.

Present day research and writing in leadership could do well to consider this shift in attack by the biologists for the suggestions it contains. Instead of searching for an understanding of *leadership* as a substance or thing, it would appear more fruitful to relate pattern (or organization) to the leader behavior which is observed and thus try to discover how a particular form of leadership works. If we concentrate our studies in a direction which considers leadership to be a generalized substance, we can easily drift away from the basic functions of the Air Force, tend not to give due emphasis to those functions, and compromise them though not intending to do so. However, when we study Air Force combat leadership by relating it to particular leader behavior, we tend to keep ourselves tied closely to the basic functions of the armed forces.

An alternative to considering leadership to be a substance is to accept leadership as an idea. In other words, leadership does not exist in the same manner as a material substance can be said to exist: rather, leadership exists as an idea in the minds of men. Gibb has put the matter as follows:

"Leadership" is a concept applied to the personality-environment relation to describe the situation when one, or at most a very few, personalities are so placed in the environment that his, or their, "will, feeling, and insight direct and control others in the pursuit of a course."[5]

"It is nonsense to talk of leadership in the abstract since no one can just lead without having a goal. Leadership is always *in* some sphere of interest, and *toward* some objective goal seen by leader and follower."[6]

Leader versus manager

In recent years many research and training programs have been conducted in an effort to improve leadership in the armed forces. A large portion of these programs have dealt with the improvement of management techniques, particular emphasis being placed upon human relations. So much emphasis has been placed upon such factors as executive ability, managerial ability and skill in human relations and personnel relations that these terms have become almost synonymous with leadership in the minds of many people working in this area. There is at least the implicit assumption that these are the things out of which leadership is made.

These programs have done much to increase efficiency in Air Force operations. It is desirable to study the factors which contribute to executive and managerial ability and to establish selection and training programs to implement the findings of such studies. But it cannot be assumed that this assures the required Air Force leadership.

Certainly it is desirable and necessary to teach commissioned and non-commissioned officers the principles and techniques of good human relations and to inform them of the basic needs of their men and the incentives which satisfy these needs. Information of this kind can make the Air Force officer more skillful in guiding and directing behavior. However, it is observed that this approach is primarily geared to the psychology of the follower and does not necessarily produce the Air Force leader. Effective leaders in the armed forces should be good managers, but it does not follow that a good manager will be an effective military leader. Something more than being a manager is needed in an Air Force leader.

When combat situations arise, leader and follower expose themselves to great physical danger where death may be the result. In the face of such danger of death, the leader must have the necessary determination to assure that the combat mission is completed. These factors are not important considerations in leader behavior in business and industry. The Air Force combat leader in a real way renounces the satisfaction of his basic needs when he chooses to accomplish the mission in the face of great physical danger and possible death. It is true that the industrial leader also tends to renounce his basic needs when he chooses to work long hours and endure fatigue to accomplish a neccessary piece of work. In this way one might plead that there is a likeness between Air Force combat leadership and industrial leadership. But the likeness is a faint one, and the difference between the two are vast. The industrialist is rarely called upon to face the possibility of immediate death in the accomplishment of an assigned task.

Combat situations are extremely unpleasant for most human beings. In all probability combat will be as necessary in the future as it has been in the past. As important as the primary and secondary needs are in the motivation of human behavior, it is our contention that the individual does not become a leader in combat situations solely as a result of striving to satisfy his needs for physical comfort, prestige, esteem, and the like. It is entirely possible that the effective combat leader will not be around to enjoy the results of his striving. At the time when he would have gained greatest prestige (if this were the underlying factor in his behavior) he could die and lose everything. More research should be directed toward inquiry into what develops the willingness in the Air Force leader to lead in combat situations. What is it that causes a man to reject the satisfaction of his basic

needs (the same needs which he uses to guide and direct the behavior of others) to accomplish the mission?

The form of Air Force leadership

The pattern is given to Air Force leadership by the purposes and functions assigned to the Air Force, in common with the other armed forces of this nation. One must approach the study of Air Force leadership with an understanding of this particular pattern or organization and the situations where it is manifested. Factors which are vital and must be given great weight in Air Force combat leadership, for example, are relatively less important, or possibly unimportant, in the circumstances associated with business or industrial leadership. This is true because these several kinds of leadership are directed toward the accomplishment of different purposes or goals.

The purposes of the Air Force and the other services are defined in the common broad functions of the armed forces as follows:

1. Support and defend the Constitution of the United States against all enemies, foreign or domestic.

2. Maintain by timely and effective military action the security of the United States, its possessions, and areas vital to its interest.

3. Uphold and advance the national policies and interests of the United States.

4. Safeguard the internal security of the United States.[7]

The oath of office for military personnel emphasizes the one function of these four that is considered to be fundamental. The oath states:

"I . . . do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign or domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion . . . SO HELP ME GOD." The commissioned officer's certificate of appointment stresses the kind of person that it is desired he be in order to assure that these functions of the armed forces will be accomplished. It states that the appointment is being made because special trust and confidence has been placed in his "patriotism, valor, fidelity and abilities."

Membership in the Air Force thus carries with it an injunction against tampering with the Constitution, the national policies or the national security. This injunction is implicit in the emphasis which is placed upon words such as "support," "defend," "maintain," "safeguard," and "uphold" in the definition of the common functions of the armed forces. It is significant that terms such as change, alter, revise, or modify do not appear in this definition. The obligation of the armed forces, and in fact the reason for their existence, is to support and defend that which is—in other words, to support and defend what is already defined in the policy documents of this nation. These factors must be kept clearly in the foreground of one's thinking when considering Air Force leadership.

Personnel who take the oath of office and assume membership in the armed forces have built a different house for themselves, so to speak. A new military-citizen has acquired heavy obligations and responsibilities which were not so clearly his in civilian life. As a civilian-citizen he could take many actions to change the Constitution and policies of this nation which he may not take as a member of the Air Force.

To aid in assuring that the armed forces carry out their assigned functions and to guarantee that the military institution continues to support and defend that which is in this nation, the framers of our Constitution placed military authority under civilian control. For example, the Commander-in-Chief of the armed forces is a civilan; and the heads of the departments of Defense, Air Force, Army and Navy are civilians. Most Americans are convinced of the wisdom of these restrictions when they consider the misuse of military power which has taken place in other countries.

Thus, the matter of assigned functions describes the basis for the great difference between Air Force leadership and business or industrial leadership. The functions of the Air Force leader differ from the functions of the business leader or the industrial leader. The armed forces in being compose the "hard core" for the defense of this nation. And accomplishing these assigned functions has often forced members of the armed forces into combat situations.

It is inviting at first glance to assume that combat personnel and noncombat personnel, being different in the daily work that they do, also differ in their ultimate functions. If this assumption were valid, it would mean that the Air Force is faced with the problems of developing leaders for combat situations and developing leaders for noncombat situations. Consider, for example, the vast differences in the work of the officer or airman who is in a position of administrative responsibility, the officer-diplomat on duty as an air attache in another nation, the mechanic who keeps a combat plane flying, or the weather officer who gathers weather information which will be used in planning a combat mission. This assumption that differences in daily work imply differences in ultimate function must be further explored.

First and foremost it must be pointed out that there are numerous examples throughout the history of warfare which show that combat personnel slow down in the accomplishment of their specific missions only after those non-combat personnel who have been supporting all phases of the combat work have slowed down and have been unable to accomplish specific non-combat missions. The reverse phenomenon has occurred infrequently. The dichotomy between combat and non-combat assignments is more apparent than real.

The whole realm of combat and non-combat job assignments can be viewed in another way. It is true that many Air Force personnel may never face a combat situation. It is equally true, however, that many Air Force personnel who are usually assigned in non-combat work may face combat situations one or more times during their Air Force careers. It is not possible to predict with a great deal of accuracy which personnel will be in combat and which will not be exposed to combat. This is especially true these days when there are possibilities of long range bombing by an enemy, attacks by enemy troops dropped by parachute far behind

the zone of ground combat, and the necessity for Air Force personnel to provide for the defense of their air bases.

The common purposes of the armed forces have obliged its members to have the necessary determination to support and defend the foundations of this nation. The human being who is effective in discharging these purposes as a member of the Air Force is the one who can control his personal needs and his interest in self, and can muster the necessary determination to accomplish an assigned mission when his regard for self-protection and his regard for mission accomplishment come into conflict with one another. This is the setting from which Air Force leadership receives its form.

Major MacGhee, a USAF officer who was a prisoner in the hands of the Communists during the Korean War, has emphasized in a recent article an essential of armed forces leadership in this way. ". . . During the 1,030 days that I was a prisoner of war in Communist hands in North Korea, it was not food, nor medical care, nor clothing that was our greatest need. It was the need for devoted, utterly unselfish leadership. . . . On the whole, conduct evidenced not only a fear of punishment by our captors and an unwillingness to lead resistance, but on innumerable occasions, an eagerness to take the easy way out, to avoid personal risk and discomfort . . . To place individual survival or comfort above principle is to destroy our nation . . ."[8]

Summary

Air Force leadership, then, is best understood when it is viewed in relation to its ultimate purposes or goals. At the present time there is a trend in programs of Air Force leadership research and training to strongly emphasize human relations, with much attention being given to the motivation of the follower. Valuable as these programs are in increasing the effectiveness of the Air Force in certain phases of its operation, they do not provide an adequate solution to the problem of Air Force leadership. In the emphasis upon teaching the leader how to satisfy the needs of the follower, we seem to have forgotten the prime necessity of producing a leader; that is, the process of creating the will within the leader to lead.

Several implications for Air Force leadership research and training programs of the future are evident. **First,** in addition to investigating and emphasizing the psychological make-up of the follower, it is necessary to investigate and emphasize those factors which motivate the leader. **Second,** the Air Force leadership problem must be studied in relation to the specific purposes which are assigned to the armed forces. **Third,** training programs should emphasize those activities which will assist the officer in identifying and appreciating the things which he is obligated to defend. Efforts should be directed toward the selection and development of men who have the necessary determination and who can inspire others to have the necessary determination to accomplish the mission, even though it may mean a delay in gaining those immediate satisfactions, satiations, comforts, and gratifications oriented on the self.

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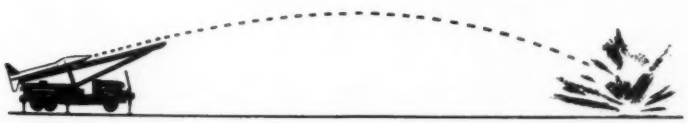

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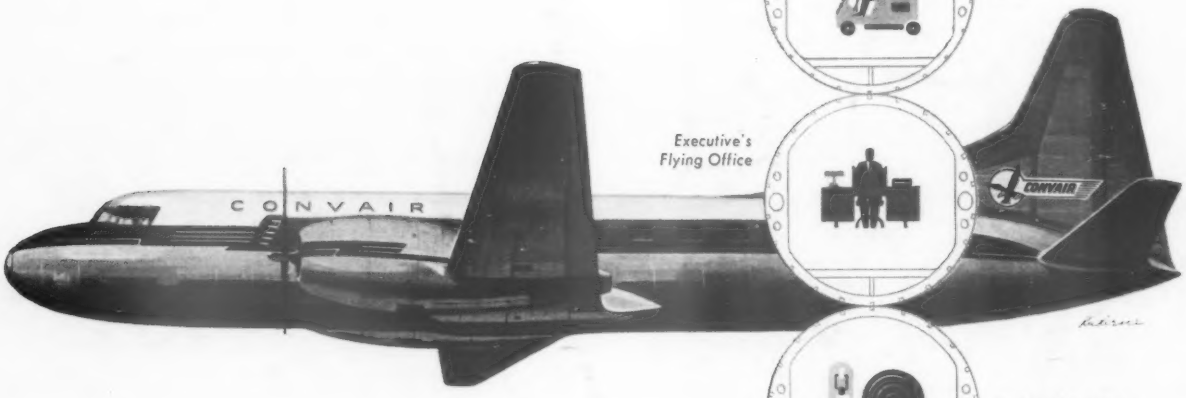

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